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TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1934.

No. 183

THE NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY, APPELLANT,

vs.

FRANK W. WEBSTER, COMMISSIONER OF HIGHWAYS, ET AL.

APPEAL FROM THE SUPREME COURT OF THE STATE OF TENNESSEE.

FILED JULY 16, 1934.



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IN SUPREME COURT OF TENNESSEE

No. —

THE NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY, Appellant,

vs.

R. H. BAKER et al., Appellees

STIPULATION AS TO RECORD—Filed June 14, 1934

The parties hereto, in order to facilitate preparation of the record and to reduce its size, agree as follows:

1. There will be copied into the record the original bill of complaint, the orders of the Court making minor corrections therein and the orders of the Court to take care of changes in official personnel. There will be sent up in the original form Exhibits 1, 2, 5, 6, 7, 8, 9, 10 and 11 to the original bill.

2. The answer of respondents in the trial court will be sent up in its entirety.

3. It is admitted that all the averments of fact, as distinguished from the legal conclusions to be drawn therefrom, in the following sections of the bill of complaint are supported by the testimony, without dispute, to wit:

(a) Sections I, II, III, X, XI, and XII.

(b) The averments of fact in Section III are agreed to as accurate, but respondents below, appellees in the Supreme Court of the United States, do not agree that the theory of the bill in paragraph (d) of said Section III is sound.

[fol. 2] (c) It is agreed that all the averments of fact in Section IV, as distinguished from conclusions of law, are correct, except:

(1) The last clause of paragraph (b) thereof reading as follows:

"* * * which will not be helped (no operating economies resulting therefrom) but actually hurt by this public improvement."

and

(2) The averments of paragraph (d) of said Section IV are admitted to the extent consistent with the testimony of Commissioner of Highways, R. H. Baker.

(d) The averments of fact in Section V are admitted except:

(1) The last sentence of paragraph (c), reading as follows:

"The so-called special motor vehicle taxes, which includes the gasoline tax, raise sufficient revenue to finance less than fifty per cent of the annual cost of construction and maintenance of the highway system of the country."

(2) The following quotation from paragraph (f) is not admitted:

"This crossing is entirely adequate for all existing traffic needs and that reasonably to be anticipated in the future and is adequately protected by the most modern electrical protective device as shown by Neg. B 4470, which is one of the pictures comprising Exhibit No. 7, hereinafter referred to."

(3) The following quotation from paragraph (f):

"The change in the routing of Highway No. 20 will shorten the existing through route approximately 1500 feet and is designed and intended not for local but for through traffic,"

is admitted only to the extent that it is consistent with the testimony of Commissioner of Highways, R. H. Baker.
[fol. 3] (e) The averments of facts in Section VI are admitted as correct, but there is added, to be considered as an admission by both parties, the following:

"To consummate the purposes intended by the constituted authorities, state and federal, in the construction of this new highway and incidental underpass, it is agreed that the location of the underpass, its plans and the cost of

construction were proper and that it should have been constructed as it was from the standpoint of proper engineering, motor traffic considerations, motor speed, convenience and safety. This agreement is not intended to relate to the division of the cost of construction."

(f) The averments of paragraph (a) Section VII are admitted. The averments of paragraph (b) of said Section VII are admitted to the extent consistent with the testimony of Commissioner of Highways, R. H. Baker.

(g) The averments of fact in paragraph (a) of Section VIII are admitted except the last clause thereof reading as follows:

"* * * so that vehicles, particularly automobiles, may now run at any speed desired or attainable by the drivers of the various motor vehicles."

The averments of fact in paragraph (b) of Section VIII are admitted.

The averments of fact in paragraph (c) of Section VIII are denied by the respondents below, appellees in the Supreme Court of the United States.

(h) The averments of fact in Section IX are admitted, except the last sentence of paragraph (e) reading:

"Motor vehicles in Tennessee make practically no contribution to the general cost of government."

(i) All the averments of fact in Section XIII are admitted, with two exceptions, to wit:

[fol. 4] (1) The averments of fact in paragraph (h) are admitted only to the extent consistent with the testimony of Commissioner of Highways, R. H. Baker.

(2) It is stipulated, particularly with reference to paragraphs (d) and (g) of said Section XIII, that in the light of modern motor vehicular traffic anything which slows up that traffic is an inconvenience. In other words, eliminating a grade crossing, as in the case at bar, facilitates the speed of motor vehicular traffic, in accordance with public demands. This is not intended to agree as to how the cost of such an improvement should be borne.

(j) It is agreed that all the averments of fact set out in Section XIV are correct, except the following two sentences from paragraph (e):

"In addition to this gigantic, unreasonable and, it is believed, illegal subsidy to commercial motor vehicles, the grade separation act in question imposes a further expense upon railroads for the primary benefit of their competitors."

* * * * * * *

"The taxing system of Tennessee today as a whole is approximately four hundred per cent more burdensome on common carriers by railroad than on common carriers by motor vehicle."

(k) It is agreed that the averments of fact set out in Section XVI are correct except the following, which is not admitted:

"* * * so that compelling it to contribute to the construction of through routes of competitive travel will take from it moneys immediately needed in the operation of interstate commerce by railroad."

It is stipulated for the record, with relation primarily to Section XVI of the bill of complaint, that expenditures when made by railroads for such grade separation projects as involved in the case at bar are, under the rules and orders of the Interstate Commerce Commission, chargeable to capital account and not operating expenses.

[fol. 5] 4. To the extent that the parties hereto have not agreed on the facts, as heretofore set out, each is free to invoke the record to sustain their respective contentions.

5. It is agreed that the entire testimony, with all the exhibits in their original form, of the following witnesses should go into the record, except as otherwise designated:

Dr. Julius H. Parmelee.
Dr. C. S. Duncan.
Mr. H. H. Cartwright with Exhibits 3 and 4 only.
Commissioner of Highways, R. H. Baker (omit Ex. 6).

Tennessee State Highway Officials; O. F. Goetz—omit all exhibits— T. C. McEwen, J. E. Moreland, R. E. Boykin, Geo. W. Pearson, W. R. Holland, F. J. Azbill.

J. B. Hill (without any of the exhibits filed by him.)

E. B. Duval.

Frank Slemons.

W. K. Tate.

Charles Barham—omit all exhibits—

W. G. Templeton.

L. E. McKeand.

6. It is agreed that the testimony of G. D. Newton, an official of the Travelers Insurance Company of West Hartford, Connecticut, may be summarized as follows:

"There were 50,510 members of the American Expeditionary Forces who either were killed in action or died of wounds received in action during the approximately 18 months of the World War, whereas in the 18 months ending December 31, 1930, there were killed in automobile accidents 50,900 people.

"From 1917 when 10,196 persons were killed in automobile accidents there has been a steady increase until in the calendar year 1931, 34,400 people were killed in such accidents.

"In 1931 there were 860,000 automobile accidents in which persons were killed or severely injured; 34,400 were killed and 997,600 were injured. Of the total, 29.8 per cent were the result of collisions between an automobile and a pedestrian; 53.1 per cent resulted from two or more automobiles colliding with each other; 5.6 per cent resulted from automobiles running into some fixed object; 1.6 per cent resulted from collisions between automobiles and street cars; while only one-half of one per cent were the result of collisions between railroads and automobiles."

[fol. 6] 7. The testimony of C. C. Farmer, Director of Engineering of the Westinghouse Air Brake Company, Pittsburgh, Pennsylvania, and C. M. Darden, Superintendent of Machinery of The N., C. & St. L. Ry., may be summarized for the record as follows:

"Trains generally, and on the N., C. & St. L. Ry., under modern braking conditions can be stopped with modern

air brakes at least six times as rapidly as with the old-fashioned hand brakes. Assuming two trains of the same size, running at the same speed, on parallel tracks, one fitted with modern brakes and the other with old-fashioned hand brakes, and assuming brake applications started on each train simultaneously, at the end of five seconds the braking power on the train equipped with air brakes would be effective to its maximum capacity, while on the train with hand brakes forty-seven out of the fifty cars, or substantially 90 per cent, would still be running without any retarding brake force."

8. The following exhibits, other than those above referred to, will be incorporated into the record in their original form on appeal to the Supreme Court of the United States, to wit:

(a) Map filed by W. K. Tate in the record in the Supreme Court of Tennessee at page 596.

(b) 4 photographs incorporated into the record at page 626.

(c) The highway density map of August 1932 filed as Exhibit No. 1 to the cross-examination of O. F. Goetz.

(d) The several density maps jointly constituting Exhibit 6 to the testimony of Commissioner R. H. Baker may be summarized as follows:

"That part of the new route in question from Nashville to Centreville was not in service before 1931. Traffic in 1930, and therefore, between Centreville and Lexington, via Linden, was light, averaging about 150 for a twelve hour day, whereas, at the same time the traffic on Route No. 1 between Nashville and Jackson averaged approximately ten times as much. As of August, 1930, traffic to and from West Tennessee generally, and Nashville, amounted in the Nashville area to approximately 5,000 vehicles for a twelve hour period. To take care of this traffic in part was one of the primary objects of the new route from Nashville to Centreville, to Linden, to Lexington and beyond."

9. The stipulation of June 10, 1933, on pages 657 and 658 of the record in the Supreme Court of Tennessee will be incorporated into the record on appeal, as will be the bulletin of the United States Department of Agriculture, dated May 2, 1933,, entitled "Increasing Use of Motor Trucks in Hauling Perishable Farm Products," following the stipulation on page 660 in the record in the Suprme Court of Tennessee.

[fol. 7] 10. Chas. M. McCabe, Commissioner of Finance & Taxation of Tennessee, testified that he knew of no funds paid by owners and users of automobiles going into the general funds of the State to help defray the general cost of government.

11. That portion of the testimony of Samuel O. Dunn of Chicago, commencing on page 598 and ending with his direct examination on page 612 of the record in the Supreme Court of Tennessee.

12. The findings and decree of the trial court commencing on page 718 of the record in the Supreme Court of Tennessee.

13. Nothing in this stipulation is intended to be an agreement by the parties on any legal proposition or waiver of any contention of law or fact, except as specifically stipulated herein.

14. It is stipulated and agreed that no other portions of the record in the trial court, except those set out above, need be incorporated into the record on appeal to the Supreme Court of the United States.

This June 15, 1934.

Fitzgerald Hall, Counsel for Appellant, The Nashville, Chattanooga & St. Louis Railway. Edwin F. Hunt, Counsel for Appellees, Frank W. Webster (R. H. Baker), et al.

[fol. 8] [Caption omitted]

IN CHANCERY COURT OF DAVIDSON COUNTY, PART ONE

Bill of Complaint under the Tennessee Declaratory Judgment Act of the Nashville, Chattanooga & St. Louis Railway, a Tennessee Corporation, with Its Principal Office at Nashville, Davidson County, Tennessee,

vs.

THE HONORABLE ROBERT H. BAKER, Commissioner of Highways and the Honorable L. D. Smith, Attorney General of the State of Tennessee, both Being Residents of Nashville, Davidson County, Tennessee

ORIGINAL BILL—Filed Nov. 21, 1931

To the Honorable R. B. C. Howell, Chancellor, holding Part One of the Chancery Court of Davidson County, Tennessee:

Complainant respectfully states and shows to the Court:

I

[fol. 9] (a) That it is a corporation, chartered by Chapter One of the Acts of Tennessee of 1845-1846, and is a common carrier by railroad, operating lines engaged in both interstate and intrastate commerce in the states of Tennessee, Kentucky, Alabama and Georgia, having its principal office at Nashville, Davidson County, Tennessee.

(b) Complainant railroad transports passengers and freight, express and United States mail. Approximately 70 per cent of all its business is interstate; interstate commerce moves every day over practically every portion of its lines; and all of its lines are highways of interstate commerce.

(c) Complainant operates its main line between Nashville and Memphis, Tennessee, through Henderson County and the incorporated town of Lexington, which is the county seat of Henderson County, and approximately 90 per cent of all traffic handled through Henderson County is interstate.

(d) Attached hereto as Exhibit No. 1 and made a part hereof, but not for copy, is a map accurately showing in red the lines of the complainant railroad.

II

Respondent R. H. Baker is the duly appointed and qualified head of the Department of Highways and Public Works, created by chapter 7 of the 1923 Public Acts of Tennessee, generally known as the Re-organization Bill, and [fol. 10] has the official title of "Commissioner of Highways and Public Works for the Department of Highways and Public Works", is a resident of Nashville, Davidson County, Tennessee, and is being sued in his official capacity as Commissioner as aforesaid.

Respondent L. D. Smith, is Attorney General of the State of Tennessee and as such is the chief law officer of the State; is a resident of Davidson County, Tennessee, and is made a party hereto pursuant to section 11, chapter 29, of the 1923 Public Acts, known as the "Uniform Declaratory Judgments Act," hereinafter more fully referred to, and is being sued in his official capacity as provided in said Act.

III

(a) Respondent Commissioner, relying on Chapter 132 of the 1921 Public Acts of Tennessee, as amended, has formally ordered complainant Railway to pay fifty per cent of the cost of an underpass to be built under complainant's single track main line on a new route, slightly different from the existing one, of State Highway No. 20 through the town of Lexington, as will be hereinafter shown in detail.

(b) This suit under chapter 29 of the 1923 Public Acts of Tennessee, officially cited as the "Uniform Declaratory Judgments Act," seeks to have determined the constitu- [fol. 11] tional validity of said order and the statutes supposed to authorize it, towit, chapter 132 of the 1921 Public Acts of Tennessee, entitled "An Act to provide for the elimination of grade crossings on State Highways" and the acts amendatory thereof and supplemental thereto, towit: Chapter 35 of the Public Acts of 1923 and Chapter 88 of the Public Acts of 1925, exact copies of each of which,

in chronological order, are filed herewith as Exhibit No. 2 and made a part hereof, but not for copy.

(c) Complainant's rights and obligations under said order and statutes are now actually in issue as will be hereinafter more fully set forth.

(d) The theory of this bill briefly is:

Until recent years roads and streets were built and financed by the local authorities out of funds raised locally for local travel, and such local roads were feeders to the railroads and not their competitors. Today such roads are financed almost exclusively by the state and federal government as a part of a nation-wide system of through highways for commerce in direct competition with railroads.

The character and volume of traffic on modern highways the financing and use thereof; railroad operations; water, air and motor transportation agencies have so completely changed former conditions that a state statute undertaking to compel railroads alone to directly finance grade crossing separations is no longer reasonable under modern [fol. 12] transportation and economic conditions, and is therefore no longer consistent with the organic laws of the State and the Nation.

IV

(a) The Act of Congress known as the Federal Highway Act (Title 23 of the United States Code) undertakes to foster a nation wide system of connected highways for through commerce as distinguished from local travel, and in section 6 authorizes direct financial aid from the federal government "to such projects that will expedite the completion of an adequate and connected system of highways interstate in character." Such state and federal aid highways are likewise to be post roads under Title 23, chapter 14, of the United States Code.

Under this Act the Government of the United States is directly aiding and fostering a nation-wide system of public roads in direct competition with other agencies of transportation such as railroads.

(b) Cooperation with the government of the United States, the State of Tennessee has been and is constructing

a series of highways to be a part of this nation-wide system of through highways.

Pursuant to this general plan the State of Tennessee is reconstructing a part of highway No. 20 where it passes [fol. 13] through the town of Lexington, Tennessee. The work on said highway No. 20 has been nearly completed by the State, but it can collect from the federal government no so-called "federal aid" fund until the underpass in question is completed. The estimated cost of this project is $17,400.00, and the State (relying on said statutes) has ordered complainant Railway to pay one half of this sum. No owners or operators of motor vehicles, nor any of the prospective users and beneficiaries of this highway, are required to contribute anything directly to the cost thereof, but such direct burden is sought to be imposed only upon complainant Railway which will not be helped (no operating economies resulting therefrom) but actually hurt by this public improvement.

(c) Complainant has questioned the power, under existing conditions, of the State to force io alone to contribute directly to this link in said nationwide system of public highways, and all the correspondence with reference thereto including the final order of Commissioner Baker dated September 10, 1931, is in chronological order attached hereto as Exhibit No. 3, and made a part hereof, but not for copy.

(d) The construction of said highway No. 20, its rerouting through Lexington and the underpass in question were not designated to meet local transportation needs but constitute a link in said nation wide system of highways. The [fol. 14] constituted authorities of the town of Lexington and the county of Henderson never sought to have the present grade crossing of said highway No. 20 eliminated, and the proposed plan is not the result of an exercise of the local police power to correct a dangerous situation but is merely in conformity to general plans of the highway bureaus or departments of the United States and the State of Tennessee.

(e) Respondent Commissioner Baker, being anxious to complete the underpass so that the State of Tennessee could collect from the government of the United States the au-

thorized proportion of "federal aid" funds, has entered into a written contract with complainant to the effect that this work may proceed promptly in the usual way, without prejudice to either party, the rights and obligations of such parties to be determined by this suit. An exact copy of this agreement is attached hereto as Exhibit No. 4 and made a part hereof, but not for copy.

V

(a) By approximately 1920 the State of Tennessee had a reasonably adequate system of roads, projected, constructed and financed by local authorities to meet local needs. The funds for such highways were raised through the medium of ad valorem taxes (or the sale of bonds to be paid by ad valorem taxes), and complainant, being the largest taxpayer in practically every county in which it operates, contributed proportionately to the construction of such [fol. 15] roads, which, for the most part, were then still feeders to complainant's railroad and to other railroads.

(b) Since approximately 1920, by various statutes, the State itself has taken over the construction and maintenance of public highways, and the present state system is being currently financed, except for federal aid, almost exclusively from state funds; and the state has even agreed to pay bonds issued by the various counties of the state to obtain funds for local highways now a part of the State system. Of the highways of Tennessee approximately ten per cent are so-called federal aid projects, that is, a part of said nation wide system of through highways sponsored by the federal government; and this route No. 20 and the proposed underpass at Lexington are parts, as aforesaid, of this through system.

(c) The State highway system is now financed by the state out of borrowed funds and special motor vehicles taxes of all kinds imposed upon all motor vehicle users, that is, privately owned and operated cars and contract and common carriers and from federal aid funds. The so-called special motor vehicle taxes, which includes the gasoline tax, raise sufficient revenue to finance less than fifty per cent of the annual cost of construction and maintenance of the highway system of the country.

[fol. 16] (d) Complainant, as other railroads, pays large sums directly for road purposes, and approximately twenty per cent of the very large taxes complainant pays to the State and the subordinate branches, is allocated directly to roads which are no longer feeders but constitute generally through highways for complainant's competitors. In addition, complainant pays, year in and year out, very large federal income taxes, from which funds, in part, come the moneys designated as "federal aid". Grade crossing separation projects in Tennessee, under the statutes aforesaid are financed one half from general highway funds, including federal aid, and one half by the railroads, and the beneficiaries thereof, namely, the users of the highways, pay nothing at all.

(e) Nashville and Memphis are the two largest cities in Tennessee and commerce between and through these cities is very large, and the shortest and best route passing through the largest city in West Tennessee (except Memphis), namely, Jackson, is over route No. 100 from Nashville to Hohenwald; thence over route No. 20 through Lexington and Jackson; thence over route No. 1 to Memphis. These routes are all a part of said federal aid system. The official highway map of the State of Tennessee showing these highways is attached hereto and made a part hereof, marked Exhibit No. 5, but not for copy.

(f) This federal and state highway No. 20 now enters [fol. 17] Lexington running almost due west at the point marked "A" in red on Exhibit No. 6 attached hereto and made a part hereof, but not for copy, which is an accurate map drawn to scale showing the central portion of the town of Lexington and the present and proposed new route of highway No. 20.

The present route of state highway No. 20 crosses complainant's single track main line where the same intersects with Clifton Street designated on said Exhibit No. 6 by the letter "B" in red. This crossing is entirely adequate for all existing traffic needs and that reasonably to be anticipated in the future and is adequately protected by the most modern electrical protective device as shown by Neg. B 4470, which is one of the pictures comprising Exhibit No. 7 hereinafter referred to.

The present routing within the city limits of Lexington of said highway No. 20 is to be relocated as shown in yellow on said exhibit No. 6, and the proposed underpass is marked in red at the point where said yellow lines project themselves across the right of way of complainant's Railway. This change in the routing of highway No. 20 will shorten the existing through route approximately 1500 feet and is designated and intended not for local but for through traffic.

(g) Filed herewith and made a part hereof, but not for [fol. 18] copy, are eleven photographs, bound together, constituting jointly Exhibit No. 7. As a part of said exhibit is an accurate statement of the physical situation as it now obtains at and near the proposed new routing of this short stretch of highway No. 20.

VI

(a) In each twenty-four hour day complainant operates over the location of the proposed underpass three passenger trains in each direction and four freight trains in each direction, making a total train use of its single track at this point of fourteen movements, or approximately on the average of one each hour and forty minutes, of which five move between ten P. M. and six A. M. when there is substantially no highway travel.

(b) The present route of highway No. 20 through Lexington, is, as aforesaid via Clifton Street.

Neither the city authorities of Lexington nor any others have ever suggested that said Clifton street crossing is dangerous and should be eliminated or given any additional protection; nor is there any need for same. The proposed new street in the city of Lexington and the proposed new subway under the Railway's tracks is not the result of any action on the part of the constituted authorities of Lexington or of Henderson County, nor is it proposed to meet any local needs, nor to remedy a dangerous situation, but is a [fol. 19] part of the stereotyped plans of federal and state highway engineers undertaking to design the shortest possible route for through movements of commerce. It is not proposed to abandon the existing grade crossing of present route No. 20 where it crosses complainant's track but to

create a new and additional route and a new point of intersection with the Railway's right of way.

(c) Approximately twenty-four miles due east of Lexington on said highway No. 20 is the new Perryville bridge over the Tennessee river. The existing use of this bridge gives a reasonable indication (some vehicles still cross the river by the existing ferry which is much cheaper) of the proposed use of said new underpass. From figures kept by the Department of Finance and Taxation based on toll bridge collections for the months of June, July and August 1931, it appears that per month there move — this bridge approximately 1200 passenger aut-mobiles, approximately 165 trucks and busses, and approximately 20 horse drawn vehicles.

An actual check made in September of the current year shows moving over the intersection of Clifton Street and the main line of complainant in Lexington, which is now the place where highway No. 20 crosses the Railway's track, daily averages as follows:

Passenger automobiles	813
School busses	8
Trucks	185
Horse and mule drawn vehicles	41
Horses	23

[fol. 20] The wagons, buggies and horses, school busses, and many others, are engaged in local travel exclusively and will continue to move over the Clifton street crossing, that street being an important local city street in the little town of Lexington.

(d) Practically all automobiles in this territory, except those doing a purely local business, are directly or indirectly competitive with complainant Railway, in that they transport persons and property which, except for the existence of automobiles, would move largely over the Railway's lines. Motor trucks, commercial, contract and common carriers, are in direct competition with complainant, in both local and through traffic moving between Nashville and Memphis, via Lexington and other points, and many such motor vehicles are of the approximate size of box cars, and with load weight frequently approximately 50,000 pounds.

These and other motor vehicles will be the direct beneficiaries of the proposed grade separation project; but neither the order of respondent Baker here under attack, nor the Tennessee statutes here under attack, undertake to require direct contribution by any person, firm or corporation, except complainant Railway, which will be benefitted at all.

(e) The population of Henderson County as given by the 1930 Federal Census is 17,655, and for the town of Lexing- [fol. 21] ton 1823. The population of the county immediately to the east, namely, Decatur, as given by said census, is 10,106; and for the county immediately to the south, namely, Chester is 10,603.

(f) The number of automobiles registered in Henderson, Decatur and Chester counties for 1930 is respectively, as follows:

Henderson	1,576
Decatur	954
Chester	1,477

(g) This whole territory is sparsely settled. There is a very limited amount of local traffic. It initiates little through traffic. The local traffic is not such as to justly or require an additional roadway or a grade separation at this point.

VII

(a) During the life of said grade elimination statute and from January 1, 1921 to the present time, at the existing grade crossing of route No. 20 and the Railway's main line at Lexington, which, as aforesaid, is adequately protected by an electric wig wag, there having been only two minor accidents from railroad operations, both of which were without fault on the part of the Railway, and the settlement of which entailed the negligible cost of $50.00. Due to infre- [fol. 22] quency of train movements, the protection furnished these movements, the existing crossing of route No. 20 is as safe as a grade crossing can be.

(b) It is not proposed, as aforesaid, to eliminate the existing grade crossing, but to create a new crossing of the Railway's right of way to be an underpass, the need, if any,

for which is not local and the demand for which was not local but was, so complainant is informed and believes, at the direction of officials of the federal government planning a nation-wide system of through highways and post roads to be used by motor vehicles in direct competition with complainant and other railroads.

VIII

(a) By Chapter 173 of the 1905 Public Acts of Tennessee the maximum permissive speed of vehicles on the public highways was 20 miles per hour. By chapter 132 of the 1925 Public Acts this maximum was increased to 30 miles per hour. By chapter 82 of the Acts of Tennessee of 1931 all restrictions as to speed on the public highways of the State were eliminated, so that vehicles, particularly automobiles, may now run at any speed desired or attainable by the drivers of the various motor vehicles.

(b) Chapter 36 of the 1917 Public Acts of Tennessee required all vehicles approaching railroad grade crossings, with a few unimportant exceptions such as fire fighting [fol. 23] equipment, to come to a full stop at some point not less than 10 nor more than 50 feet from the railroad tracks. Chapter 82 of the 1931 Public Acts of Tennessee changes this sensible rule so as to require automobiles to slow up or stop on approaching railroad grade crossings only when there is a positive signal of the immediate approach of a train or cut of cars, or when the State Highway Department in the proper manner, designates a particular crossing as dangerous. This proposed crossing has never been so designated nor has the Clifton street crossing.

(c) The public policy of the State of Tennessee, as evidenced by the legislative enactments above referred to and the statutes here under attack, is to minimize all restrictions on the movements of motor vehicles and to impose the burden and expense of their safe movement on railroads.

IX

(a) The advent of the internal combustion engine and the more recent advent of a nation-wide system of through highways has so revolutionized traffic that approximately

84 per cent of the land borne passenger traffic of America moves by automobile. Commercial motor vehicles, excluding urban and suburban traffic, while now transporting approximately 4 per cent of the land borne commercial freight traffic of the nation in volume, have to a much larger [fol. 24] extent affected railroad transportation because the bulk of the traffic so handled carries the highest freight ratings.

(b) The number of automobiles in the nation per year from 1920 to 1930, divided between passenger cars, including commercial busses, and trucks is as follows:

Year	Pass. cars Inc. busses	Trucks	Total
1920	8,225,859	1,006,082	9,231,941
1921	9,346,195	1,118,520	10,464,715
1922	10,864,128	1,375,725	12,239,853
1923	13,479,608	2,134,724	17,595,373
1925	17,512,638	2,441,709	19,954,347
1926	19,237,171	2,764,222	22,001,393
1927	20,219,224	2,914,019	23,133,243
1928	21,379,125	3,113,999	24,493,124
1929	23,121,589	3,279,854	26,501,443
1930	23,042,840	3,480,939	26,523,779

(c) The number of automobiles in the State of Tennessee from 1920 to 1930, divided in the same way, is as follows:

[fol. 25]

Year	Private pass: cars and busses	Trucks	Total
1920	90,214	11,638	101,852
1921	102,795	14,230	117,025
1922	119,319	16,397	135,716
1923	154,181	19,184	173,365
1924	183,891	20,789	204,680
1925	221,712	22,914	244,626
1926	254,342	25,297	279,639
1927	269,086	25,481	294,567
1928	294,305	27,832	322,137
1929	329,697	32,734	362,431
1930	330,436	37,823	368,259

(d) Filed herewith marked Exhibits Nos. 8 and 9, respectively, and made a part hereof, but not for copy, are maps accurately showing the common carrier bus and

truck routes in competition with complainant granted certificates of public convenience and necessity by the Railroad and Public Utilities Commission of Tennessee pursuant to the provisions of section 2 of chapter 58 of the 1929 Public Acts of Tennessee. These maps show merely [fol. 26] the routes and not the number of vehicles. So in other states the vital portions of complainant's lines are paralleled by through highways over which move certificated common carriers and other motor vehicles. Actual check has disclosed that in the few instances where the Railway's lines are (generally due to rebuilding the highways) not closely paralleled by public highways the volume of freight traffic has remained substantially stationary or actually increased; but as soon as public highways parallel the Railway's lines immediately there is a very great reduction in freight tonnage.

From a check of motor truck operators holding certificates of convenience and necessity issued by the Railroad and Public Utilities Commission of the State of Tennessee, it appears that there are 255 such operations (some of such operations are interstate and all immediately parallel railroads; 220 of such operations are intrastate and 181 thereof immediately parallel railroads, while only 39 do not.

A similar check for passenger operations (some of such operations involve the use of many vehicles) shows that of 47 interstate operations 43 immediately parallel railroads and 4 do not. Of the 1122 intrastate operations 57 immediately parallel railroads and 55 do not.

(e) For several years the public has been spending on public roadways available for motor vehicles in the nation as a whole something over one and one half billions of [fol. 27] dollars per annum. In 1930 (including payments on bonds) this sum totaled $1,991,364,000.00. In the seven years ending June 30, 1930, the State of Tennessee, through its Highway Department, in addition to approximately one hundred millions that was spent by the counties and cities of the State, expended on highways $123,661,008.41, and on bridges $11,896,000.48. The bulk of this expenditures was on the ten per cent of public roads constituting part of said nation wide system of through highways, including highway No. 20.

Motor vehicle taxes of all kinds, ad valorem, privilege, license plate, gasoline, and others, will not pay for one-half

of the annual expenditure on public roads, and the balance is being made up in part by money borrowed and in part by general property taxes.

Complainant Railway pays very large taxes, none of which are expended on facilities which it can or does use, and approximately 20 per cent of all of such taxes go for public highways for its competitors by motor vehicles to use. Motor vehicles in Tennessee make practically no contribution to the general cost of government.

(f) Measured by the use of the Perryville bridge at the present time and the use of the Clifton Street crossing it is reasonable to estimate that through the proposed under- [fol. 28] pass will move at least fifty motor — for every train movement over the same, and that a large part of all of said motor vehicles will be in active competition with complainant Railway. Many of said vehicles will as in other parts of Tennessee with load weight between 20,000 and 50,000 pounds. This new form of transportation, whether it be by common carrier, contract carrier or by owner-operator is in direct competition with the railroad traffic of the country and is the immediate and direct beneficiary of such proposed improvements as this new underpass; and the danger, if any, were there a grade crossing, would be as much to the trains as to the motor vehicles, due to their number, size, speed and weight and the possibility of accidents is no longer a matter for which the Railway can be chargeable to any considerable degree.

X

(a) In 1920 complainant carried 4,385,630 revenue passengers. In 1930 it carried only 680,347. For the first nine months of 1931 it carried only 370,445.

(b) The gross passenger revenues by years from January 1, 1920 to date, giving nine months for 1931, are as follows:

[fol. 29] 1920	$5,661,011.08
1921	5,115,363.36
1922	4,678,037.50
1923	5,060,565.10
1924	4,815,184.58
1925	4,834,798.12
1926	4,503,571.12

1927	3,849,644.52
1928	3,335,146.31
1929	2,909,440.13
1930	2,095,942.29
1931 (9 months)	1,139,238.00

(c) The growth of freight transportation by motor vehicle has developed very rapidly in the last three years, although there has been some such transportation for a decade or more. In the last several years, even during the present general economic depression, in the relatively few places where complainant's lines are not immediately paralleled by hard surfaced highways its freight traffic has remained substantially constant and in some instances actually increased. Where existing hard surfaced roads parallel to complainant's lines have been blocked for repairs and reconstruction the traffic on complainant's parallel railroads has almost immediately increased. Where new highways have been built along complainant's lines (and practically every foot of complainant's lines are now [fol. 30] so parallel) the decrease in complainant's freight traffic has been immediate and striking in amount.

The diversion of freight from the railroads to trucks is indicated by the following typical instances:

1. Nashville, Tennessee, is a typical livestock market. In 1921 railroads handled into Nashville 69.79 per cent of the head of stock received at Nashville. In 1930 this had been reduced to 21.24 per cent. On the other hand trucks handled in 1921, 30.21 per cent and in 1930, 78.76 per cent. In 1921 the railroads handled into Nashville, 5,689 cars of livestock. In 1930 (there was some slight diminution in the total volume) only 641 cars.

2. A detailed check of important distributing centers on complainant's lines showed that over two-thirds of the less than carload traffic has been diverted to motor trucks.

This situation is, as complainant is informed and believes, substantially typical of railroads in general.

(d) Complainant has 1203.39 miles of railroad, practically all of which are now closely paralleled by hard surfaced highways, on which move a steady stream of commercial motor vehicles in direct competition with complainant.

[fol. 31] XI

Damage to property and persons and loss of life as a result of motor vehicle transportation is not primarily due to grade crossing accidents or to railroads but to the inherent vice of motor vehicle traffic itself. For the calendar year 1930 the Interstate Commerce Commission reported 4,262 accidents between railroads and motor vehicles, in which 1,695 persons were killed and 5,206 injured, in many (possibly most) cases the entire fault being with the motorists.

Official estimates, properly checked for accuracy, have been made for the calendar year 1930. Growing out of all automobile accidents in the United States 32,500 were killed and 962,325 injured. Of these 1,695 were killed by collisions with railroad trains or 5.1 per cent of the total number of persons killed. Of the injured 5,206 were injured by collisions with railroad trains or one-half of one per cent of the total number of persons injured. In other words if every grade crossing in America were eliminated (and this would cost more than the total present investment in railroads) it would prevent only one-half of one per cent of the injuries to persons and 5.1 per cent of the deaths of persons using automobiles.

XII

(a) Prior to the advent of automobiles, railroads had [fol. 32] a virtual monopoly of land borne transportation. Movements of freight and passengers except by railroads were almost exclusively local in character and through the medium of horse or mule drawn vehicles.

(b) Today private passenger automobiles operate throughout the nation on federal and state aid highways, including Tennessee, and including that portion of route No. 20 in question; and common carrier bus companies operate throughout Tennessee and the nation in regular scheduled movements in the same way as passenger trains. In the same way long distance transportation of freight, including dead freight, perishables and livestock, are handled by great trucks, some of which are 70 feet in length, many weighing with load as much as 50,000 pounds. Freight is regularly carried on schedule just as by freight trains

all over the nation. The state and federal highways, and the particular highway and underpass in question, were not designed or intended for local transportation, but primarily for through interstate commerce.

XIII

When the rules of law which permitted the constituted authorities to impose all or a part of grade crossing protection expense on railroads were becoming crystal-ized, transportation conditions were wholly different from what they are now and expenditures for such purposes were required solely in the exercise of the police power; whereas today they are required (almost exclusively) by the federal government under the commerce clause and by the several [fol. 33] states under the powers to build public roads. Some of the important changes in conditions are here detailed.

(a) Many years ago railroad equipment was operated by hand brakes. Today automatic highspeed air brakes are in almost universal use, with electrically operates brakes in the near future a distinct probability. This change in the braking system enables the engineer or other operators of a modern train to stop the same more than four times as promptly as could be done under the old system of hand brakes.

(b) Years ago the only method of warning of the approach of trains was by bell and whistle on the locomotive itself. Today, through electrical devices, important grade crossings are all protected by wig wags and similar devices, so that anyone approaching a crossing can know, while a train is still approximately two miles away, that it is coming. Such crossing devices, embracing both flashing lights and bells, give warning both to the ear and to the eye.

(c) In the early days grade crossings were generally so constructed that it was not easy for the then vehicles to get across. The highway crossing was not generally flush with the rail. Today all modern grade crossings are so constructed that a vehicle can pass over the same as easily and safely as if the railroad track were not there.

(d) In the early days the universal method of travel on the public highways was by animal drawn vehicles. The

[fol. 34] drivers of horses, mules and oxen could not closely approach a grade crossing and stop and look and listen because of the inherent nature of the animals themselves. The flash of a headlight, the roar of a train, the blast of a whistle, the blowing off of steam, were all calculated to cause such animals to run away. Whereas today, with over 99 per cent of all traffic on the highways being handled by motor vehicles, the drivers thereof can closely approach railroad tracks without the slightest danger and stop and look and listen without either substantial delay or inconvenience, and the possibility of accidents due to the inherent nature of horses, mules and oxen has been wholly eliminated.

(e) In the early days the drivers of buggies and wagons had no method of lighting the highway in advance so as to see a grade crossing at night until it was actually reached. Today all motor vehicles, which comprise, as aforesaid, over 99 per cent of all the traffic on public highways, have adequate lights, enabling the drivers of motor vehicles to see grade crossings sufficiently far in advance to avoid, by the exercise of reasonable care, accidents thereon.

(f) Automobiles with four wheel brakes and some with power brakes can be easily and quickly stopped, and, upon approaching such a crossing as the present route, No. 20 at Lexington (The Clifton Street crossing) can, even when running approximately 30 miles an hour, easily stop when [fol. 35] the brakes are in good condition, after the driver has a view of the track in each direction and the wig wag. Ability to stop vehicles on the public highways, plus the increased efficiency in stopping trains, has revolutionized operating conditions at grade crossings — practically no sober careful driver collides with a train.

(g) Due to such changes as those detailed above, particularly to the motive power of vehicles on the public highways, most of the reasons which existed in "horse and buggy days" for the elimination of grade crossings no longer obtain. In those days trains at grade crossings were a menace to the rest of the traveling public; whereas today it is primarily the motor vehicle and not the train which is a menace to safe transportation. Some of the

worst accidents in railroad history were caused by careless automobile drivers.

(h) The existing crossing of highway No. 20 at Lexington is used very largely by motor vehicles, though there is some little local movement of horse and mule drawn vehicles. However, the proposed underpass is not designed or intended to take care of this local travel but of through travel which is exclusively by motor vehicles and is, as aforesaid, to be a link in said nation-wide system of through highways.

[fol. 36] XIV

(a) In 1928, 1929 and 1930 complainant Railway alone paid in general ad valorem taxes to the State of Tennessee, its counties, municipalities and taxing districts, $532,548.55, $599,382.72 and $603,324.00, respectively. For the same three years the ad valorem taxes paid by all commercial motor vehicles in the forty-four most populous and richest counties of the State (including the thirty-three in which complainant operates) amounted to $1,371.97, $1,774.01 and $1,185.04, respectively. For the same three years commercial motor vehicles paid ad valorem taxes to forty-one municipalities (including every large city in the State) of $1,047.27, $830.44 and $1,320.65 respectively. There are ninety-five counties in Tennessee. A detailed and accurate study of ad valorem taxation in the forty-four counties and forty-one municipalities is attached hereto and made a part hereof, marked Exhibit No. 10, but not for copy. This exhibit is entirely accurate and the forty-four counties to which it applies embrace approximately 75 per cent of the motor vehicle traffic and are entirely typical of the State as a whole. A map of the State of Tennessee, upon which is shaded in yellow the forty-four counties visited, is attached hereto and made a part hereof, marked Exhibit No. 11, but not for copy. These forty-four counties represent 64 per cent of the total population of the State.

(b) In addition to property taxes complainant in 1930, which was a fairly average year, paid directly to the State [fol. 37] of Tennessee in privilege and excise taxes $16,048.98. Other railroads paid proportionately. Figures are not available to show exactly the privilege taxes paid by common carrier motor vehicles. However, the Tennessee

Railroad and Public Utilities Commission, to which all common carriers by motor vehicles report, states at page 124 of its eighteenth biennial report, that the total taxes of every kind and character paid by all common carrier busses in Tennessee for the calendar year 1930 amounted to only $300,000.00. The break-down of this figure is given as follows: 425 coaches paid privilege taxes of $153,000.00; for license tags $24,000.; for gasoline tax $110,000.00 and for inspection fees $13,000.00. It makes no report as to trucks but it is known that it would not amount to as much as the busses.

The National Chamber of Commerce estimates that for the calendar year 1929 all busses and trucks, including common and private carriers both, paid only 25 per cent of the total taxes paid by all motor vehicles. In this connection it is important to bear in mind that the small automobiles paid through the medium of gasoline taxes for the use of the public highways per ton mile approximately three times as much as the very large and heavy trucks.

(c) In 1930 the complainant paid the city of Lexington and the County of Henderson, respectively for taxes $1,202.18 and $19,824.25. For the same period common carrier motor vehicles paid nothing.

[fol. 38] (d) In addition to property and privilege taxes proper complainant Railway has contributed for grade crossing separations in Tennessee since January 1, 1931, to date, the sum of $781,396.73. The owners of automobiles have neither paid nor have been requested to pay one dollar directly towards the cost of such improvements although they are in fact the greatest beneficiaries and users thereof.

(e) Motor vehicles for hire, as distinguished from all motor vehicles, pay on the average for the nation,—and this is substantially correct for Tennessee about seven cents out of each dollar of gross revenue for taxes of all kinds, including ad valorem, privilege, license, registration and gasoline. Railroads as a whole and this is substantially applicable to the situation in Tennessee and to complainant—pay, on the average, in taxes proper a little more than six cents out of each dollar of gross revenue. When such a Tennessee railroad as complainant pays taxes it receives in return therefor only governmental protection; whereas motor vehicles for hire, upon payment of their taxes, re-

ceive exactly the same governmental protection, plus a roadway built and maintained (but not taxed) exclusively out of public or governmental funds (except where railroads, as in the instant case, are forced to pay for a public improvement of no use to it for the benefit of its competitors.)

The railroads acquire their own rights of way, construct their own roadways, pay taxes thereon and maintain the [fol. 39] same. It costs complainant and other railroads in general, on the average approximately 28 cents (this varies with the years and states) out of each dollar of gross revenue for governmental protection plus a properly maintained roadway on which to move its vehicles; whereas competing motor vehicles obtain exactly the same thing, on the average, for about seven cents out of each dollar of gross revenue. In addition to this gigantic, unreasonable and, it is believed, illegal subsidy to commercial motor vehicles, the grade separation act in question imposes a further expense upon railroads for the primary benefit of their competitors.

Practically all taxes paid by motor vehicle owners and operators are expended in enlarging and improving facilities for themselves to use; whereas taxes paid by railroads go for highways for their competitors to use, schools, and the manifold functions of government. None of the taxes paid by railroads are for facilities to be used by the railroads. Practically none of the taxes paid by motor vehicle owners and operators go to support the general expense of government.

The taxing system of Tennessee today as a whole is approximately four hundred per cent more burdensome on common carriers by railroad than on common carriers by motor vehicle.

[fol. 40] XV

(a) When the greater use of grade crossings was by railroad, and when the chief danger of accidents at such places was due to railroad operation, complainant was willing to assume the cost of grade crossing protection; but the facts which give rise to the present rules of law whereby railroads can be compelled to so contribute, have entirely changed from the period when such law was being crystalized; and complainant is advised and therefore avers that

its obligations to contribute to safety protection at crossings must be judged, not by old and obsolete conditions, but by the facts of today.

Furthermore, complainant is unwilling voluntarily to contribute, in addition to general taxes proper, towards the cost of through highways of commerce, when the users thereof are already receiving as aforesaid benefits wholly disproportionate to all public burdens.

(b) Through routes of commerce, such as that here in question, are no longer designed for local travel, but are merely units in a nation-wide system for the faster and more convenient movement of motor vehicle transportation; and the governmental authorities, directing grade separations, are not, so complainant is advised and avers, exercising the police power, but are exercising the governmental function of constructing highways; so compelling complainant to contribute directly to such a grade separation [fol. 41] project, under existing conditions, constitutes, so complainant is advised and avers, the taking of private property for public use rather than the elimination of danger the cause of which is properly attributable to complainant.

(c) Complainant is entirely willing to bear its fair share of all governmental expenditures both taxes proper and for local internal improvements; but it is no longer willing to voluntarily pay for the cost of such grade crossing elimination projects when the direct beneficiaries, namely the users of motor vehicles, are not required to pay one dollar directly for such purposes, nor otherwise to bear their just share of the cost of government. To alleviate this burden and eliminate this discrimination, complainant drew and had introduced in the Tennessee General Assembly of 1931 as House Bill 257, a bill to divide the cost of such public improvements equally between railroads, commercial motor vehicles and the general public. An exact copy of this bill is attached hereto as Exhibit No. 12 and made a part hereof but not for copy. The bill was reported unfavorably by the House Committee to which it had been referred and was defeated.

(d) Other bills calculated to relieve the existing discrimination against railroads were presented, but the 1931 Tennessee General Assembly with full knowledge of all the

facts, deliberately refused to equalize the tax burden and deliberately perpetuated the existing discrimination against [fol. 42] railroads.

XVI

Complainant has never since the Transportation Act of 1920 was passed earned as much as five and three-fourths per cent on the fair value of its properties devoted to the public use, and it is not now earning its fixed charges; so that compelling it to contribute to the construction of through routes of competitive travel will — from it moneys immediately needed in the operation of interstate commerce by railroad.

XVII

Complainant is advised, and, on information and belief, avers that said order of respondent Commissioner Baker directing it to pay one-half of the cost of said underpass at Lexington is illegal, null and void because said chapter 132 of the 1921 Public Acts and the amendments thereto, were designed and intended to impose such a financial burden on a railroad only when an existing dangerous grade crossing was being entirely eliminated; the theory being (aside from the fact that the railroad was probably partially responsible for such danger as existed) that the total removal of the grade crossing would be of some benefit to the railroad and therefore some justification for requiring it to be partially — directly in the expenditure for such public project.

[fol. 43] As it is not contemplated to eliminate the existing grade crossing where present highway No. 20 crosses complainant's main line but to leave the existing crossing as it now is and to add an underpass for through highway traffic, complainant is advised and avers that said statutes are not applicable to the existing situation and therefore said order of respondent Commissioner Baker is null and void.

XVIII

Complainant is advised and, on information and belief, avers that said order of respondent Commissioner Baker here under attack and the said Tennessee grade crossing elimination statutes here under attack are illegal, null and void for the following reasons, towit:

(a) Said underpass project and the incidental improvements are not the result of the exercise of any power by the local constituted authorities but was designed by the federal and state highway engineers, not in the exercise of the police power to cure a dangerous situation, but as a proper engineering feature in the construction of a nation wide system of highway for motor vehicle transportation. Such project is merely a part of the internal improvement plans of the several states and the nation to facilitate commerce between the states; so to compel complainant alone to contribute directly to the cost thereof constitutes the [fol. 44] taking of private property for public use without compensation, contrary to section 21 of Article 1 of the Constitution of Tennessee and of the "due process" clause of the Fourteenth Amendment.

(b) Complainant uses this portion of its line very infrequently and the bulk of the use of this portion of complainant's right of way will be by competing motor vehicles. The existing grade crossing (which is not to be eliminated) is not a dangerous one and the object of its construction is not public safety but commercial convenience; so that said statues, undertaking to impose upon such a railroad as complainant a special burden for such purpose, and so palpably arbitrary and so unreasonably discriminatory as to violate the "due process" and "equality" clauses of the Fourteenth Amendment.

(c) All of the complainant's taxes go to defray the general cost of government including substantial contribution to roads; whereas practically all which its competitors by motor vehicle pay go for the construction of facilities for themselves to use. Complainant's total tax burden in Tennessee (deliberately designed and steadfastly maintained) [fol. 45] as measured by what it receives is, as aforesaid, approximately four hundred per cent as great as that of its competitors by motor vehicle; so as to require complainant to contribute, in addition to taxes proper, directly toward the expense of this proposed underpass, while imposing no similar or any burden directly on the motor vehicles which will use it, is so palpably arbitrary and unreasonable and so viciously discriminatory as to violate the "law of the land" clause of Tennessee's Constitution (Sec. 8 of Article I) and the "due process" and "equality"

clauses of the Fourteenth Amendment to the Federal Constitution.

(d) The bulk of complainant's revenues, as aforesaid, came from interstate commerce by railroad. Practically all of its funds are expended in providing a highway of interstate commerce by railroad and equipment to run thereon. Complainant should and does pay taxes and those taxes go, as aforesaid, to defray the general cost of government. To require complainant, which now needs all the [fol. 46] funds it can possibly get to properly operate its interstate railroad, to directly contribute alone of all the citizens of Tennessee, for a part of this general undertaking to create a nation wide system of public highways for competing motor vehicle transportation, constitutes a direct and illegal burden on interstate commerce by railroad in violation of section 8 Article I of the Constitution of the United States, commonly referred to as the "Commerce Clause;" and unreasonable discrimination in violation of the "equality" clause of the Fourteenth Amendment.

(e) Federal aid highway No. 20 now crosses, as aforesaid, complainant's single track in the city of Lexington, as the Clifton Street crossing. This whole proposed change will shorten the route over said highway No. 20 only 1500 feet. To attempt to impose upon complainant Railway the expenditure of $8,700.00 for such an alleged public improvement, which on its face is palpably unnecessary and a gross economic waste, is so arbitrary and capricious as to violate the due process of law clause of the Fourteenth Amendment.

XIX

Complainant is advised and therefore avers that it is entitled to file this bill in this Honorable Court to the end that the validity of said order and of said statutes may [fol. 47] be determined by this Honorable Court.

Premises considered:

Complainant asks leave to file this bill in this Honorable Court that the parties named in the caption as respondents be made such by the service of process compelling them and each of them to appear at an early rule day of this Court to answer this Bill, but not under oath, answer under oath being expressly waived.

Complainant further prays that said order of respondent Commissioner Baker be held null and void on the ground as aforesaid that said chapter 132 of the 1921 Public Acts of Tennessee, and the acts amendatory thereof, properly construed, are not applicable to the instant case, because it is not proposed to eliminate the existing grade crossing but to merely add an additional crossing leaving the existing situation as it now is.

Complainant further prays that said order of respondent Commissioner Baker and said chapter 132 of the 1921 Public Acts of Tennessee, and the acts amendatory thereof, if held applicable to this case, be held illegal, null and void as in conflict with the Constitutions of the State of Tennessee and of the United States, as hereinbefore in detail alleged.

[fol. 48] Complainant further prays for such other, further and general relief as it may be entitled to in the premises.

The Nashville, Chattanooga & St. Louis Ry., J. B. Hill, President; Seth M. Walker, Fitzgerald Hall, Solrs. for Complainants.

I am security for all costs.

Fitzgerald Hall.

Attest: D. S. Huggins, Asst. Secretary. (Seal.)

[fol. 49] *Duly sworn to by J. B. Hill. Jurat omitted in printing.*

[fol. 50] In Chancery Court of Davidson County

[Title omitted]

Stipulation re Correction of Bill of Complaint—Filed March 8, 1932

To the Honorable R. B. C. Howell, Chancellor, holding Part One of the Chancery Court of Davidson County, Tennessee:

It is hereby agreed by the parties hereto that by the medium of this stipulation the petition in this cause may be corrected in the two following particulars, to wit:

In Paragraph (3) of Section V in the sixth line the word "Hohenwald" is to be changed to the word "Linden"; then in paragraph (b) of Section XIII in line six the words "two miles" should be eliminated and the words "two thousand feet" substituted in lieu thereof.

[fol. 51] It is agreed that this stipulation may be filed and become a part of the technical record in lieu of formal amendment.

This February 18, 1932.

Seth M. Walker, Fitzgerald Hall, Atty's for Complts.
Roy H. Beeler, Atty. for Respondents.

[fol. 52] In Chancery Court of Davidson County

[Title omitted]

Stipulation Substituting Roy H. Beeler for L. D. Smith Deceased—Filed November 22, 1932

In this cause it is stipulated by the parties that respondent, the Honorable L. D. Smith, Attorney General of the State of Tennessee, having recently died, there may be substituted in his room and stead, without the formal service of process, the New Attorney General of The State of Tennessee, the Honorable Roy H. Beeler.

This November 21st., 1932.

Fitzgerald Hall, Counsel for Complainants. Roy H. Beeler, Counsel for Respondents.

[fol. 53] In Chancery Court, Part One, Davidson County

[Title omitted]

Stipulation of Counsel re Substitution of Frank W. Webster—Filed March 27, 1933

It is agreed that on January 17, 1933, Frank W. Webster became Commissioner of Highways in the room and stead of Robert H. Baker, one of the original respondents in this cause.

It is agreed that this stipulation may be filed as a part of the technical record and that an appropriate order substituting the said Frank W. Webster for Robert H. Baker may be entered, subject to the approval of the court.

This March 7, 1933.

Fitzgerald Hall, Counsel for Complainant. Roy H. Beeler, Counsel for Respondents.

[fols. 54-72] In Chancery Court, Part One, Davidson County

[Title omitted]

Order Substituting Frank W. Webster for Robt. H. Baker as Respondent—March 27, 1933

This cause came on to be heard upon the application of the complainant, The Nashville, Chattanooga and St. Louis Railway, to substitute, in the room and stead of Robert H. Baker, his successor in office;

And it appearing to the Court, by stipulation of the parties, that Frank W. Webster, a resident of Nashville, Tennessee, did on January 17, 1933, become Commissioner of Highways of the State of Tennessee;

It is therefore ordered that Frank W. Webster be substituted as a party respondent in this cause, in the room and stead of Robert H. Baker, and that this may be done by agreement without the formal service of process. This March 27th. 1933.

Approved for entry:

Fitzgerald Hall, Counsel for Complainant. Roy H. Beeler, Counsel for Respondents.

[fol. 73] In Chancery Court of Davidson County

[Title omitted]

Answer of Defendant—Filed January 27, 1932

Come the respondents, R. H. Baker, Commissioner of Highways and Public Works of the State of Tennessee, and L. D. Smith, Attorney General of said State, and for an-

swer to so much and such parts of the bill filed against them in this cause as they deem it material to answer, say:

1. Respondents admit that complainant is chartered by Chapter 1, Acts of Tennessee for the years 1845-1846 and that it is a common carrier by railroad operating lines through Tennessee, Kentucky, Alabama and Georgia with its principal office at Nashville, Tennessee, and that it is engaged in the carriage of passengers, freight, express and United States mail both in intrastate and interstate commerce, but respondents are not advised as to whether [fol. 74] 70% of complainant's business is interstate and if this should be deemed material, respondents demand proof. It is true that complainant operates a line of railway between Nashville and Memphis, Tennessee, through Henderson County and through the incorporated town of Lexington in said county, but respondents do not admit that 90% of the railway traffic through Henderson County is interstate and they call for proof of this allegation if the same becomes material.

2. Respondents admit the allegations contained in Section II of complainant's bill.

3. Answering Section III of complainant's bill, respondents admit that the respondent Baker issued a formal order upon the complainant requiring that the underpass in question under complainant's railway tracks on State Highway No. 20 at Lexington, Henderson County, be constructed in conformity with the provisions of Chapter 132, Public Acts of 1921, as amended by Chapter 35, Public Acts of 1923 and Chapter 88 of the Public Acts of 1925.

Further answering, respondents deny the allegations contained in subsection (d) of Section III of complainant's bill; but show on the other hand that while it is true up to about twenty years ago highway construction had not [fol. 75] reached that point which it has attained since and up to that time many of the highways were financed in the main by funds raised by the cities and counties without a great deal of state and Federal aid, such roads were not intended and treated as feeders to the railroads alone but the same were in many respects competitors of the railroads However, respondents do not deem this material to a determination of the questions involved in this litigation. Beginning about the year 1915, the State of Tennes-

see inaugurated a general scheme for highway construction which has been supplemented from time to time down to the present by necessary amendatory legislation. This system of state highways has been financed out of funds provided by the state, supplemented by Federal aid and by contributions from the various counties and cities of the State through which the highways have been constructed.

Respondents deny that the character and volume of traffic on modern highways, financing and use thereof, railroad operations, together with water, air and motor transportation agencies, have in any wise changed conditions that formerly existed so as to make the provisions of Chapter 132, Public Acts of 1921, as amended by the Acts of 1923 and 1925, unreasonable in any respect in the requirements of said Acts that railroads shall contribute to the cost of [fol. 76] grade crossing separations on the highways of the state. Respondents deny that the change in the methods of transportation or financing highway construction has in any way changed the law applicable to grade crossing separations or the payment of the cost therefor; but they show on the other hand that it is entirely consistent with the organic law that the railroads should pay their part of the cost of grade crossing separations wherever in the opinion of the Commissioner of Highway and Public Works such separation becomes necessary as protection to the traveling public both on the railroads themselves and on the highways traversed by the railroads. In other words, the complainant in this maintains its railway lines over the soil of the State of Tennessee by permission of the state and must submit to be controlled by the state in the exercise of the state's police power to require grade crossing separations in the interest of public safety and public convenience. The complainant's right to construct and maintain its lines of railroad track is not a natural right but is a right granted by the state as the sovereign and that grant is exercised by the complainant subject to the state's right in the exercise of its police power to require grade crossing separations for the protection of the traveling public both by rail and by highway.

4. Answering Section IV of Complainant's bill, respond- [fol. 77] ents deny that the Federal Government in providing for Federal aid in the construction of highways and in fostering a nation wide system of public highways is

doing so with the thought that said highways may come in direct competition with railroad transportation systems. If, as a matter of fact, said highways, when constructed, do compete with the other systems of transportation, such as railroads, this is merely incidental to the use of said highways by the traveling public; and, at the same time, such highways, when constructed, will operate as feeders for railroad transportation to a very great extent.

It is true that the Federal Government has contributed and is still contributing to the cost of construction of various highways in the State of Tennessee and it is expected that such contribution will be made by the Federal Government to the cost of construction of Highway No. 20 on which is located the underpass in question in this proceeding.

Respondents deny the allegation contained in Section IV of complainant's bill to the effect that no owner or operator of any motor vehicle, and that no user or beneficiary of highway No. 20 will be required to contribute anything directly to the cost of said highway or to the construction of the underpass in question; but they show on the other hand [fol. 78] that each owner of an automobile using gasoline must pay the gasoline tax provided by the state, practically all of which goes to the highway funds; and likewise, must pay the automobile license tax, all of which goes to highway funds, and, any user of interstate motor vehicles for hire must in addition to paying these taxes, pay a mileage tax which likewise goes to the highway funds. The state's half of the cost of the grade crossing elimination would be payable out of the general highway funds and, of course, these taxes levied on motor vehicles and other operators going into the general highway funds cannot be considered as not contributing to the cost of construction of highways and of underpasses or overhead grade crossing separations wherever provided. Respondents deny, therefore, that the cost of grade crossing separation is imposed on railways alone and they further deny that railways will not be benefited by grade crossing separations. The benefit comes from the elimination of the danger both to the traveling public over the highways and to passengers and crews on the trains.

Further answering, respondents do not admit or deny that the correspondence filed as Exhibit No. 3 to complain-

ant's bill correctly sets forth what took place between the complainant and the Commissioner of Highways and Public Works with reference to this grade crossing separation at Lexington, Tennessee; but if the same is material, re-
[fol. 79] spondents call for proof.

Answering subsection (d) of Section IV of complainant's bill, respondents deny the allegation therein contained; but show on the contrary, that local transportation and local transportation facilities will use Highway No. 20 when and as the traveling public over said highway desires to use the same, as well as through traffic.

Answering subsection (e) of Section IV of complainant's bill, respondents admit the execution of Exhibit No. 4 to the bill, the same being an agreement executed by them with the proper officials of the complainant with reference to the construction of the underpass at Lexington by the complainant, and respondents presume that Exhibit No. 4 is a true and correct copy thereof, not being able to say because they do not have the original exhibit before them as this answer is dictated.

Respondents further answering, show, however, that no appeal was ever taken by the complainant from the order of the respondent Commissioner of Highways and Public Works directing the construction of said underpass as provided by Chapter 132, Public Acts of 1921, as subsequently amended, to the Railroad and Public Utilities Commission of the State of Tennessee, in order that the complainant
[fol. 80] might have the reasonableness of said order reviewed by the Commission, as provided by statute, and the complainant not having appealed to the Commission and availed itself of the judgment of said Commission cannot now question or challenge the reasonableness of said order or the necessity for the grade crossing elimination.

5. Answer- Section V of complainant's bill, respondents admit that by the year 1920 the State of Tennessee had projected a certain system of highways in the state but a very great number thereof were not completed and many have been completed since that date. This highway system was not projected with an idea of meeting local needs alone or of meeting needs of through traffic; but the same was projected and carried into execution for the purpose of affording to the traveling public easier access to and from places which they might desire to reach. It was not put into effect

for the purpose of creating competition to the railways of the country but for the purpose of meeting the necessary demands of the citizenship of the State of Tennessee.

Respondents deny that the complainant is the largest taxpayer in every county in which it operates or that it has contributed an undue proportion to the cost of the construction of the highways of the state, but shows on [fol. 81] the other hand that motor vehicle operators using the highways are subject to practically all the taxes which complainant has to pay, including property tax, excise tax, income tax, and, in addition, motor vehicle operators pay the state gasoline tax, which goes in the main to highway construction, the automobile license tax, which goes entirely to highway construction and the mileage privilege tax provided in the General Revenue Bill of 1931. The gasoline tax and the automobile license tax are required to be paid by users of gasoline and automobiles, regardless of whether they are operated for commercial purposes or not —that is to say, the private passenger cars and privately operated trucks would be subject to these taxes.

As to the amount of money which would annually be raised by the gasoline tax, the automobile license tax and the mileage tax, respondents are not now advised accurately but they will be able to show this on the hearing of this cause.

Complainant pays no tax which goes directly for road purposes except the gasoline tax on such gasoline as it uses; and respondents show that the complainant has challenged the validity of this tax in the courts of the state and [fol. 82] the case challenging that tax as to the complainant is now pending in the Supreme Court of the state for final determination. Respondents deny that 20% of the tax which the complainant pays directly to the state is allocated to road construction.

As to the amount of Federal income tax which the complainant pays, respondents are not advised but such income tax as is paid by the complainant to the Federal Government can have no bearing on the case at issue here, because said tax goes into the general fund of the Federal Government and can be appropriated to any lawful purpose by the Congress of the United States and if the Congress sees fit to appropriate a portion of the money paid in by the railways of the country as income tax to the aid of the various

states in the construction of highways, this is a matter of which the complainant cannot complain in this proceeding.

Respondents deny the allegation contained in complainant's bill to the effect that the users of the highways pay nothing at all toward the cost of grade crossing separations but show on the other hand that the half of the cost of such separation which is chargeable to the state is paid out of general highway funds to which the users of the highways contribute as aforesaid.

[fol. 83] As to the allegations contained in sub-section (e) of Section V of complainant's bill, respondents call for the proof if the same is deemed by the court material.

Further answering, respondents deny that the crossing referred to in complainant's bill as the Clifton Street crossing is adequate for the travel on Highway No. 20. They likewise deny that the crossing is safe or that adequate protection is afforded by any electrical devices which may be in use by the railway. It is true that the old routing within the city limits of Lexington as to Highway No. 20 is to be relocated so that the road may be more useable and dangerous curves may be eliminated and the length of the highway shortened; but the relocation is as equally available to local traffic as to through traffic. Respondent Highway Commissioner has deemed the relocation of this Highway at this point advisable and has accordingly notified complainant to make the separation of a grade crossing. The public safety and convenience will be served and the complainant itself will be protected by the elimination of this crossing and these are the reasons which prompted the respondent Highway Commissioner in making said order.

6. Answering Section VI of complainant's bill, respondents are not advised as to the schedule of the complainant's [fol. 84] trains over its line of railroad on which the crossing in question is located but does know that several trains operate each day over said line, it being one of complainant's main lines between Memphis and Nashville; but respondents are sufficiently advised in order that they might intelligently determine that the separation of this grade crossing was necessary and in the public interest.

Respondents deny the allegation in complainant's bill to the effect that the citizen- locally are not interested in the elimination of this grade crossing. They deny that there is no need for the elimination of the same, and they deny

that there was any necessity for demand on the part of the constituted authorities of the City of Lexington or of the County of Henderson that said elimination should be made. They likewise deny the allegation of complainant to the effect that this crossing is not dangerous. It is true that the location of this crossing is not at a point where Highway No. 20 originally crossed the railway but is at a different point a short distance away and the change was rendered necessary to carry out proper construction of the highway.

Further answering, respondents show that Highway No. 20 is not entirely completed; that when it is completed, it will accord the shortest route between Nashville and Mem- [fol. 85] phis and will perhaps carry more traffic than any other highway between said two points; that it is immaterial whether the traffic is through traffic or local traffic, because the danger on account of the grade crossing at the point in question would be as great if the traffic were all through traffic as it would be if it were all local; or it would be as great if it were mixed traffic, which it will no doubt be. The only question necessary to be determined is whether or not in the public interest, public convenience and public safety the crossing should be eliminated and that matter has been determined by the respondent Baker as Commissioner of Highways and Public Works of the State of Tennessee and his determination of that question was not appealed from under the statute by the complainant so as to give the Railroad and Public Utilities Commission of the State of Tennessee an opportunity to determine that question after hearing. Complainant cannot now question the reasonableness of the order of said Commissioner, nor the necessity for the elimination of the grade crossing.

When this highway is completed, the traffic will no doubt increase very materially between Nashville and Memphis and intermediate points, and especially over the highway at the point of the location of this crossing.

As to the traffic count of passenger automobiles, school [fol. 86] busses, trucks, horse-drawn vehicles and horses using this crossing in the month of September, respondents are not advised as to the correctness thereof, but if the same is material they demand proof.

Further answering, respondents say that it is wholly immaterial as to whether the traffic over the highway at the

point of this crossing is in direct competition with the complainant since the question for determination is whether or not it is necessary to promote such public safety and convenience that this crossing be eliminated. If it is, then the state as the sovereign has the right as it has elected to do by the statute referred to to require the complainant to pay all or a part of the cost of the elimination thereof. The complainant has brought about the danger by virtue of having so constructed its tracks as to come in contact with the highways of the State which are being maintained by the state and its agencies for the benefit of the whole public, and having so constructed its railway tracks must submit to be controlled by the state for the benefit of the whole public to such an extent as that no dangerous crossing can exist at the point in question.

Respondents deny the allegations of complainant's bill to the effect that motor vehicles are frequently operated over the highways which will weigh 50,000 pounds and if this allegation becomes material, they call for proof.

[fol. 87] Respondents show in this connection that the Code of Tennessee for 1932, at Section 2703, provides that no vehicle shall be permitted to operate over any street, road, highway or public thoroughfare which by reason of its weight or the character of its wheels will injure the surface of such street, road, or highway and said section further provides that the Highway Commissioner can prescribe rules and regulations relating to the use of the highways by such vehicles "provided, that the State Highway Department shall require that all such vehicles using the public thoroughfares shall have a maximum weigh- of ten tons, including the weight of the vehicle itself and the load thereon." The result is that complainant's allegation to the effect that these vehicles weigh approximately 50,000 pounds is directly in conflict with said act. The weight of the vehicle and its carrying capacity are absolutely immaterial to a determination of the issues involved in this proceeding because the danger would still exist to the traveling public, including passengers and crews on railroad trains, regardless of whether the motor vehicles using the highways are large or small and regardless of the size of the load.

Further answering, respondents are not advised as to the number of automobiles registered in Henderson, De-

[fol. 88] catur and Chester Counties for the year 1930 and

if said number becomes material, respondents call for proof.

Further answering, respondents show that there is considerable local traffic in this territory and will be a great variety over Highway No. 20, at the point of the grade crossing in question when the road is fully opened up and the underpass completed.

7. Further answering, respondents show that an electric wig-wag signal maintained as alleged in the bill at this crossing is not sufficient to adequately protect traffic over the highway and by rail and that one accident might be of such magnitude as to cost the railway company many times the cost that will be required to separate this crossing at grade.

Respondents deny that their determination to require the complainant to eliminate this crossing was at the instance and direction of the officials of the Federal Government planning a nation wide system of through highways. This determination was made by the respondent Baker himself acting through his own engineers.

8. As to the provisions of Chapter 173, Public Acts of [fol. 89] 1905, Chapter 30, Acts of 1917, Chapter 132, Public Acts of 1925, and Chapter 82, Acts of 1931, in regard to speed of motor vehicles on the highways of the state, respondents are content to leave these acts speak for themselves but respondents do not deem said acts material to a determination of the issues involved or otherwise than that the speed of automobiles has been eliminated as charged by the complainant then the danger at the crossing would be increased rather than minimized and the necessity for the elimination of the crossing at grade would likewise be increased.

9. Respondents do not admit that 84% of the rail borne passenger traffic of America now moves by automobile. If it does and if Highway No. 20 is in the main a through highway, as charged by complainant, then the danger at the crossing in question is increased on this account and there exists all the more reason for requiring the complainant, who does not occupy the soil of the State of Tennessee at this or any other point as a matter of right but only by sufferance and permission of the state, to contribute to the cost of the separation of the crossing at grade.

Answering subsections (b) and (c) of Section IX of the bill, respondents are not advised as to the correctness of these tables undertaking to show the number of auto-
[fol. 90] mobiles in the United States by year from 1920 to 1930 divided by the passenger cars, commercial busses and trucks, or as to the number of said vehicles in the State of Tennessee but if said tables become material, respondents call for proof.

Answering subsection (d) of Section IX of complainant's bill, respondents are not advised as to the accuracy of these allegations but if the number of certificated oper-
[fol. 91] ators of motor vehicles under Chapter 58, Acts of 1929, over the highways of the state, and particularly over lines paralleling complainant's lines, becomes material, then respondents call for proof. However, the number of certificates granted under the provisions of Chapter 58, Public Acts of 1929 to motor vehicles carriers cannot in any wise affect the complainant's right or the right of the state as regards the construction of the underpass in question. If the state had no law providing for certificates for operators, then any operator who chose might proceed to carry such freight or passengers as he could procure to carry over the highways of the state and the volume of traffic would doubtless be increased rather than diminished and thereby the danger would be increased.

As to the allegation contained in subsection (e) of Section IX of complainant's bill undertaking to set forth the figures representing the expenditure by the public in highway construction in the nation as a whole and in the State of Tennessee, respondents are not advised as to the correctness thereof, but they deny the materiality of said figures or the allegations containing them and call for strict proof if the court deems the same material.

Respondents deny the allegations contained in the second paragraph of subsection (e) of Section IX of complain-
[fol. 92] ant's bill.

Respondent- deny that 20% of all the taxes paid by the complainant to the state is used for highway construction. They likewise deny that the motor vehicles in Tennessee make practically no contribution to the general cost of government.

Respondents deny the allegation contained in subsection (f) of Section 9 of complainant's bill undertaking to set

forth an estimate as to the traffic by motor vehicle over Highway No. 20.

10. Respondents deny the allegations contained in Section X of complainant's bill undertaking to detail the number of revenue passengers carried by complainant in the years 1920, 1930 and 1931, undertaking to detail the passenger revenues from 1920 down to date, because respondents do not deem these matters material but if they are considered material by the court, then respondents call for proof thereof.

No doubt a very great amount of the decrease in passenger and freight revenue can be attributable to the unusual period of depression that has been prevailing of late years and perhaps the same is not chargeable to such a [fol. 93] very great extent to the loss of traffic to competing motor vehicle carriers.

Respondents deny the allegations contained in Section X of complainant's bill relative to livestock shipments and a diversion of the same to motor trucks on complainant's lines and call for proof thereof.

11. Respondents neither admit nor deny that grade crossing accidents are caused by carelessness of the drivers of motor vehicles in the main but if these allegations become material, as set forth in Section XI of complainant's bill, strict proof is demanded.

12. Answering Section XII of complainant's bill, respondents admit that for a long time prior to the advent of automobiles and trucks the railroads of the country had a virtual monopoly of land transportation and having such monopoly they carried the transportation business on practically as they saw fit to do without undertaking to afford to the public as complete and efficient a system of transportation as might have been afforded and they have adopted this attitude even in the face of the advent of motor vehicles to such an extent as that the very attitude of the railroads themselves, and particularly of the com- [fol. 94] plainant, has contributed to their loss of traffic to the motor vehicles.

Respondents deny that motor vehicles seventy feet in length and weighing 50,000 pounds are operated over the highways of the state. They deny the materiality of this allegation and if the same is material in any aspect of this

case, they demand strict proof as to the facts touching the same. They deny that the underpass in question was designed and intended primarily for the use of highway traffic in interstate commerce but they show on the other hand that it will be used by local transportation agencies to as full an extent as such agencies may desire to use it, which will no doubt be greater than the use put to it by interstate commerce agencies.

13. Answering Section XIII of complainant's bill, respondents admit that transportation conditions have changed in recent years due to highway construction and to the advent of the automobile and truck; but they deny that these changed conditions have changed the right of the state to exercise its police power to require railroad companies to contribute to the cost of separation of crossings at grade in the interest of public safety and public welfare.

[fol. 95] Further answering, respondents admit that railroad equipment as now operated use air brakes on trains but this does not eliminate the danger of grade crossings. It is true no doubt that certain electrical devices by way of wig-wag signals and similar devices are used by the complainant but these devices do not abrogate the right of the state to insist on separation of crossing at grade. The nature of the grade crossing, as set out in subsection (c) of Section XIII of complainant's bill, cannot alter or change the law in regard to the right of the state to insist upon the construction of the underpass in question. The fact that better grade crossings, more scientifically constructed, are in use wherever the highway is traversed by railroad lines does not minimize the danger nor does the fact that travel on the highway is in the main by motor vehicles afford excuse for a change in the rule of law originally applicable when the Act of 1921 was passed; nor does the fact that automobiles carry lights change the rule. The fact that automobiles are equipped with brakes so that they can stop within a few feet after the brakes are applied does not remove the danger or the necessity for the separation of grade crossings still exist and if the complainant is correct in its theory that traffic will be increased over the highways by virtue of modern construction thereof and the advent of automobiles, then the danger at the grade cross-

[fol. 96] ings is increased in direct proportion to the increased traffic.

14. Respondent not being advised as to the correctness of the allegations contained in Section XIV of complainant's bill, relating to the amount of taxes paid by the complainant to the state and the amount paid by motor vehicles, deny said allegations and call upon the complainant for proof thereof, if the court should deem the same material; but respondents deem these allegations wholly immaterial because they do not in any way reflect upon the question of the right of the state to insist upon the complainant's contributing to the cost of separating the crossing at grade by an underpass at Lexington, Tennessee, which is involved in this litigation.

Further answering, respondents do not admit the allegation to the effect that complainant paid for the year 1930 $16,048.98 as privilege and excise taxes to the state, nor do they admit the correctness of the figures taken by complainant from the report of the Railroad and Public Utilities Commission of the State of Tennessee and set forth in subsection (b) of Section XIV of complainant's bill, but they call for proof thereof.

Respondents deny the figures taken by complainant from [fol. 97] the National Chamber of Commerce estimates for the calendar year 1929 and they deny the materiality of said allegation as well as the accuracy thereof, and call for proof if the same is deemed material.

Not being advised as to the amount of taxes paid by the complainant to the City of Lexington and the County of Henderson for the year 1930, respondents call for proof if the court deems the same material.

As to the contribution by complainant to grade crossing separations in Tennessee since January 1, 1921, respondents do not at this time have the amount of such contribution available. They therefore, call upon the complainant for proof if these allegations are deemed material but respondents insist that they are immaterial and can serve no purpose in this proceeding.

Respondents deny the allegation and the materiality thereof contained in subsection (e) of Section XIV of complainant's bill and call for proof thereof.

As to the allegation that the complainant has had to acquire its own rights-of-way and construct its own road-

ways thereon and maintain the same, respondents say that [fol. 98] these allegations are in a sense correct, with the modification, however, that a very great portion of the rights-of-way on which complainant's tracks are now located have been donated to the complainant and that in addition to this, a very great amount of money and other contributions have been made to complainant in the past by the state and the various counties and municipalities thereof to enable it to construct and maintain its railroad lines but it now insists that it has a right to earn a return without regard to the source from which said lines and the contributions thereto came.

Respondents deny that the taxing system of the State of Tennessee is 400% more burdensome on common carriers by railroad than on common carriers by motor vehicle and if these allegations become material, respondents demand proof.

15. Answering Section XV of complainant's bill, respondents deny that any change in the method of transportation or of highway construction or financing has worked a change of the rules of law whereby railroads can be compelled to contribute to the cost of separation of crossing at grade.

Respondent- deny that complainant pays any highway [fol. 99] tax of any kind except such gasoline tax as it has paid in the past and which it is now challenging in the courts of the state.

If the allegations of subsection (b) of Section XV of complainant's bill be true, which respondents deny, to the effect that the highway system of the state, and particularly Highway No. 20, is a part of a nation wide system "for the faster and more convenient movement of motor vehicle transportation", then and in that event there will be an increased hazard and danger at each crossing in the state and the complainant being responsible for such dangers on its lines, would certainly be obligated to remove those dangers or contribute to the cost of the removal thereof in the interest of public safety, public convenience and public welfare. Of course persons traveling by motor vehicle would be directly benefited thereby because the danger would be removed but they would be no more benefited than any other travelers on the highways or than would the complainant railway, since it would afford pro-

tection to the train crews and passengers on the complainant's railroad trains.

Respondents are advised that it is true that the complainant had various bills introduced in the last session of the General Assembly of the State of Tennessee aimed at [fol. 100] motor vehicle operations and intending to increase the tax on the operators of motor vehicles but practically none of said bills were enacted into law by the General Assembly and one of them which was intended to require motor vehicles operating over the highways of the state to contribute to the cost of grade crossing elimination was defeated and it was thereby evident that the General Assembly still considered it the duty of the railroad companies to pay one-half the cost of grade crossing elimination with the state paying the other half. At any rate, practically none of these bills presented by the complainant to the last session of the General Assembly, and the complainant being practically the only railroad interested and pressing these matters, were passed by the General Assembly and enacted into law.

16. Respondents deny the allegations contained in Section XVI of complainant's bill as to the earnings of the complainant but if said allegations become material, respondents call for strict proof. The materiality of these allegations is denied.

17. Respondents deny the allegations contained in Section XVII of the complainant's bill to the effect that the order of respondent Baker as Commissioner of Highways and Public Works directing complainant to pay one-half [fol. 101] the cost of the construction of said underpass at Lexington, Tennessee, respondents deny that Chapter 132 of the Public Acts of 1921 with its amendments was not designed and intended to have application to a case of the character presented here. The elimination of the grade crossing would be of material benefit to the complainant and would therefore be ample justification on this theory for requiring complainant to participate in its cost; the state as the sovereign in the exercise of its right of sovereignty under the police power, has a right to require the complainant to comply with the order complained of and has a right to have enforced the Act of 1921 with its amendments.

Respondents aver that the Act of 1921 as amended applies to the present controversy and that acting under it, the respondent Baker as Commissioner of Highways and Public Works, had the right to promulgate the order complained of and that the order is final and enforcible, not having been appealed from by the complainant so as to have the judgment of the Railroad and Public Utilities Commission of the State as to the reasonableness of said order after a hearing before it for that purpose, as provided by statute.

[fol. 102] 18. Answering Section XVIII of complainant's bill, respondents deny that the said order of respondent Commissioner Baker under attack in this proceeding or that the grade crossing elimination statutes heretofore referred to are illegal, null and void for any reason set forth in said bill, or for any other reason that could be invoked.

Further answering, respondents deny specifically the allegations of subsection (a), Section XVIII of complainant's bill and show on the other hand that the respondent Baker in promulgating said order for the elimination of said grade crossing acted in the exercise of the police power of the state for the purpose of eliminating a dangerous crossing and he likewise acted properly from an engineering standpoint in that by the elimination of said grade crossing and the relocation of the highway conformable therewith, a better highway was provided from an engineering standpoint. The fact, if it be a fact, that this construction is a part of the internal improvement plans of the several states in the nation to construct a system of nation wide highways does not alter the situation or change the law applicable thereto because the inherent danger and hazard arises because of the two classes of traffic, the one on the highway and the other on the railroad, and when [fol. 103] that traffic becomes such because of its density as that the two operations are inconsistent and incompatible with the public safety, it thereupon becomes the duty and the inherent right of the state as the sovereign to make provision for the elimination of the danger and hazard and to provide that the railroad company operating a private enterprise which has brought about the danger, must contribute to the cost of its elimination or must bear the entire cost, since the traveling public over the highways of the state has the right to have said highways

constructed and maintained in a safe manner free from any dangers attendant upon their interssection by privately owned and operated railroads. The complainant railroad is a public utility and the state as the sovereign may in the exercise of its police power—that it is its duty whether public safety demants it—require the separation of grade crossings for the preservation of human life and the protection of property. Grade crossings call for a necessary adjustment of two conflicting interests that of the public use, the highways, and that of the railroads and public using them. The streets represent the more important interest of the two, and the advent of automobiles has given them an additional claim to consider. Highways being places to which the public is invited and which it necessarily frequents, the state in the care of which this interest of the public is lodged, and from which the railroads derive [fol. 104] their right to occupy the land, has a constitutional right to insist that the highways should not be made dangerous to the public whatever may be the cost to the railroads introducing the danger in affecting its elimination.

The authority of the railroads to project their moving trains across the highways must be taken to be subject to the implied limitation that this authority may be cut off whenever and so far as the safety of the public requires it.

The order complained of in this case and the statutes under which it was promulgated are not in violation of Section 21, Article 1 of the Constitution of Tennessee or of the "Due Process Clause" in the Fourteenth Amendment. It can make no difference then as to the purpose of the construction or relocation of Highway No. 20 and the determination of the Department of Highways and Public Works to have this grade eliminated and the imposition upon the complainant of one-half the cost of the construction of the underpass imposes no special burden upon the complainant and is not an arbitrary or unreasonable exercise of the police power so as to constitute a discrimination against the complainant in violation of the [fol. 105] Fourteenth Amendment to the Federal Constitution or in violation of any other constitutional right.

Respondents again deny that the tax burden imposed by the State of Tennessee upon the complainant is 400% as great as that imposed upon motor vehicle operators. They

deny that this allegation made by the complainant is material. They deny that the State has no right to require complainant to contribute toward the expenses of this proposed underpass. They deny that the imposition upon the complainant of a part of the cost of the underpass violates Section 8, Article 1 of the Constitution of Tennessee or any other provisions thereof. They deny that it violates the "due Process" and the "Equality" Clause of the Fourteenth Amendment to the Federal Constitution. They show on the other hands that such requirement of the complainant is in perfect accord and perfectly consonant with all of the provisions of both the Federal and State Constitutions.

The fact that a portion of the complainant's revenue arises from interstate commerce by railroad is not material under the law to a determination of the issues here involved. Neither is the fact that the larger portion of the expenditures made by the railroad are made in providing a highway for interstate commerce by railroad and equipment to run thereon material. This does not alter or change the law which imposes upon the state as the sov- [fol. 106] ereign the duty to see to it that the highways of the state are made safe places over which to travel, even to the extent of requiring railroads to eliminate grade crossings at their own expense or to contribute to their elimination. It is not material to the issues here to be determined that the complainant railroad needs the funds which would necessarily be required to contribute to the construction cost of the underpass in question to properly maintain and operate its line of interstate commerce. The first duty the complainant owes is to see to it that its lines of railroad are not projected into or across the highways of the state in such manner as to render the crossings of the highway dangerous to human life and property. There is no violation of any constitutional provision either state or Federal in the requirement by the Act of 1921 and any order promulgated thereunder that the grade crossing in question shall be eliminated and half the cost of such elimination borne by the complainant railroad and particularly is there no violation of Section 8, Article 1 of the Constitution of the United States, commonly referred to as the "Commerce Clause" nor of the "Equality Clause" of the Fourteenth Amendment.

Further answering, respondents show that the elimination of this grade crossing is not an unnecessary undertaking nor is it an economic waste in any aspect that may [fol. 107] be looked at. Neither is it arbitrary and capricious, nor does it violate the "Due Process Clause" of the Fourteenth Amendment.

19. Further answering, respondents aver that it is necessary in the public safety and for the public convenience that the hazard and danger which would be occasioned by a grade crossing on Highway No. 20 at the point in controversy where said highway is crossed by complainant railway be eliminated by the construction of an underpass as directed by the order of the respondent Baker as Commissioner of Highways and Public Works under the authority of the Act of 1921 as amended, and that such a course being necessary, and having been determined upon by the respondent Baker as Highway Commissioner as aforesaid, it is the duty of the complainant railway to comply with said order and to construct said underpass and pay one-half the cost thereof as provided by statute.

In requiring this to be done by the complainant railway, the respondents are undertaking to render safe for the traveling public both by rail and by highway this intersection and to eliminate a dangerous condition that must necessarily exist, and the fact that a certain portion of the traffic on Highway No. 20 is interstate traffic can make [fol. 108] no difference. Neither can the fact that trucks and busses traversing said Highway No. 20 and engaged in competitive service to that furnished by the railway make any difference. The railway has no inherent natural right to occupy the soil of the State of Tennessee at this or any other point but occupies the same under the permission of the state and by sufference and having chosen to so occupy it, it must subject itself to be controlled by the state in the exercise of its police power to the point where its occupancy of the soil and its crossing of the highways may be safe for the traveling public both by rail and on the highways. The complainant railway is a public utility and as such has devoted its property to a use in which the public has an interest. The result of such dedication is to grant to the public an interest in that use and the complainant must submit to be controlled by the

public for the common good to the extent of this interest; and it matters not that the complainant had constructed its line of railroad and established its business before the Act of 1921, as amended was passed. It did this with the knowledge from the time of the construction of its railway lines that it was subject to the police power of the state as the sovereign to require it to conform to such regulation as might be established by proper authorities for the common good and for the public safety and convenience.

[fols. 109 & 109a] 20. All allegations of complainant's bill not already admitted, denied, or confessed and avoided are here and now denied as specifically as if denied in order, and these respondents having as fully answered as they deem it material for them to answer, pray to the hence dismissed with their reasonable costs.

R. H. Baker, Commissioner of Highway and Public Works; L. D. Smith, Attorney General, both by R. H. Beeler. Roy H. Beeler, Solicitor General.

[fol. 110] In Chancery Court of Davidson County

[Title omitted]

Statement of Evidence

Depositions—Filed March 31, 1932

Deposition of Dr. Julius H. Parmelee and Dr. C. S. Duncan

Taken by agreement, before Paul J. Robertson, a Notary Public in and for the District of Columbia, in the Transportation Building, Washington, D. C., commencing at 2:30 o'clock in the afternoon, March 18, 1932.

All formalities as to notice and otherwise are expressly waived and all exceptions except to the frame and style of the questions are expressly reserved to the hearing.

It is agreed that the Notary, who is also a court reporter, [fol. 111] may transcribe his stenographic notes and sign the names of the witnesses to the transcript and send the original of each deposition directly to Fitzgerald Hall at Nashville.

It is further agreed that cross examination is waived and counsel for the defendants shall have the right at any time on reasonable notice, to cross examine said witnesses.

Present, representing the complainant: Fitzgerald Hall, Esq., of Nashville, Tennessee.

Present, representing the defendants: General Roy H. Beeler, of Nashville, Tennessee, and Defendant Commissioner Robert H. Baker.

Dr. Julius H. Parmelee, called by complainant as a witness, was duly sworn, examined and testified as follows:

Direct examination.

By Mr. Hall:

Q. Please give your name, age and residence.

A. My name is Julius H. Parmelee. My age is 48 years. My residence is Falls Church, Virginia, and my business [fol. 112] address is 1024 Transportation Building, Washington, D. C.

Q. What is your present position?

A. I am Director of the Bureau of Railway Economics, Transportation Building, Washington, D. C.

The Bureau of Railway Economics is an organization established and maintained by the steam railway companies of the United States, for the scientific study of transportation problems. The Bureau has been in existence since 1910, and I have been connected with it in one capacity or another since the spring of 1911.

Q. I will ask your business experience, qualifications, etc.

A. I graduated from Yale University in 1904, after specializing in economics and statistics. For three years from 1904 to 1907, I served as instructor in economics at Yale, and at the same time pursued a course of post-graduate study in economics, taking the degree of Doctor of Philosophy in that subject.

In 1907 I joined the staff of the Interstate Commerce Commission as a Special Agent and Special Examiner, and remained with the Commission until I resigned in the fall of 1909. From 1909 to 1911 I was Special Agent for the United States Immigration Commission and for the United States Bureau of the Census, in the course of which I did considerable field work for the Government.

I joined the staff of the Bureau of Railway Economics in [fol. 113] May, 1911, and Statistician of the Bureau to 1918, Chief Statistician from 1918 to 1920, and became the Director of the Bureau in September, 1920, a position I still hold. I may add that at the present time I am President of the Arlington & Fairfax Motor Transportation Company, which is a motor bus operating line.

In addition, I have published many articles and made many addresses on transportation problems. In 1925 I was a Delegate to the International Railway Congress at London, England, was elected President of the Fourth Section of the Congress, *was* presided over its deliberations during the term of the Congress. In 1927, I was the American Delegate of the International Chamber of Commerce to the Third General Conference on Communications and Transit of the League of Nation*al,* held at Geneva, Switzerland. I served for three years as a member of the Editorial Board of the Quarterly Journal of the American Statistical Association, for several years as a member of the Editorial Board of the American Economic Review, and at present am a Contributing Editor of Social Science Abstracts. I am a Fellow of the American Statistical Association.

Q. Have you read a copy of the bill of complaint filed by the Nashville, Chattanooga & St. Louis Railway in this cause?

A. I have read a copy of the bill of complaint filed by the Nashville, Chattanooga & St. Louis Railway Company in this cause.

[fol. 114] Q. Generally, how are so-called Federal and State aid roads financed?

A. In the final analysis, all funds for public highways and streets in the United States are obtained through taxes, some of the funds are obtained through taxes and assessments levied and collected specifically for road purposes. Some are derived from the sale of road bonds, which must eventually be retired from funds obtained by taxation, and the interest on which is derived from taxes. Others are obtained indirectly through state or local appropriations made from funds obtained by general taxation; from funds obtained through motor vehicles' taxation and license fees; from gasoline taxes. Still others come from Federal ap-

propriations, which are in turn derived from moneys in the Treasury secured by taxation of one sort or another.

The foregoing is a general statement of public policy and applies to city streets as well as highways. Highways connect towns or cities, and are sometimes referred to as "rural roads." The following paragraphs relate to the financing of highways only.

According to reports of the United States Bureau of Public Roads, Department of Agriculture, the total income for State highways in 1930 was $1,136,673,000. Of this amount 25.5 per cent was obtained from motor vehicle fees and 36.2 per cent from gasoline taxes; a total of 61.7 per cent was thus derived from so-called special motor vehicle taxes. The proportion that came from other taxes and [fol. 115] appropriations was 5.8 per cent; from bonds sold, 19.6 per cent, from Federal aid, 8.1 per cent, and from transfers from local and county funds and miscellaneous sources 6.8 per cent.

Total income and funds available for local highways amounted to $818,380,000 in 1930. The proportion derived from motor vehicle fees alone was 6.7 per cent and from gasoline taxes 13.1 per cent, or a total of 19.8 per cent from special motor vehicle taxes. About 60.4 per cent of the total was derived from appropriations and taxes (other than gasoline taxes and motor vehicle fees). The proportion from bonds sold was 11.6 per cent, while 6.2 per cent arose out of transfers from State funds and miscellaneous sources.

The total income and funds available for State and local highways combined, amounted to $1,955,053,000 in 1930. Of this amount 17.7 per cent was derived from motor vehicle fees, and 26.5 per cent from gasoline tax receipts, or a total of 44.2 per cent from special motor vehicle taxation. Other taxes and appropriations contributed 27.5 per cent; 16.2 per cent was derived from bonds sold; 4.7 per cent from Federal aid road funds used; and 7.4 per cent from Federal aid road funds used; and 7.4 per cent from transfers of funds and miscellaneous sources.

As a partial answer to this inquiry, I submit a statistical table for the record, in which these figures are given in detail for the calendar years 1921 and 1930, and for the nine years from 1921 to 1930 (except 1922) combined. Sta-

tistics for the year 1922 are not available. The table follows:

[fol. 116] (Parmelee)

Sources of Highway Income (in Thousands of Dollars)

Sources: From reports of Bureau of Public Roads.

Item	1921	1930	Total 9 years 1921 to 1930 (except 1922)	Per cent distribution 1921	1930	9 years
State Highways:						
Total income	$404,068	$1,136,673	$6,452,230	100.0	100.0	100.0
Taxes and appropriations	67,233	43,318	489,481	16.6	3.8	7.6
Motor vehicle fees	101,284	289,802	1,934,459	25.1	25.5	30.0
Gasoline tax receipts	3,274	411,109	1,392,936	0.8	36.2	21.6
Bonds sold	111,397	222,288	1,142,465	27.6	19.6	17.7
Funds from companies & miscl.	43,423	77,693	749,050	10.7	6.8	11.6
Federal-aid funds used	77,457	92,463	743,839	19.2	8.1	11.5
Local Roads:						
Total income	743,493	818,380	6,659,900	100.0	100.0	100.0
Taxes and appropriations	348,514	494,633	3,895,881	46.9	60.4	58.5
Motor vehicle fees	15,117	54,911	359,568	2.0	6.7	5.4
Gasoline tax receipts	239	107,111	364,157	*	13.1	5.5
Bonds sold	323,176	94,685	1,459,106	43.5	11.6	21.9
Funds from state for local roads	2,321	33,702	197,118	0.3	4.1	3.0
Miscellaneous income	54,126	33,338	384,070	7.3	4.1	5.7
Total State Highways and Local Roads	1,147,561	1,955,053	13,112,130	100.0	100.0	100.0
Taxes and appropriations	413,747	537,951	4,385,362	36.2	27.5	33.4
Motor vehicle fees	116,401	344,713	2,294,027	10.1	17.7	17.5
Gasoline tax receipts	3,513	518,220	1,757,093	0.3	26.5	13.4
Bonds sold	434,573	316,973	2,601,571	37.9	16.2	19.9
Funds from state for local roads	2,321	33,702	197,118	0.2	1.7	1.5
Funds from Co.'s & miscl. (State)	43,423	77,693	749,050	3.8	4.0	5.7
Miscl. income (local)	54,126	33,338	384,070	4.7	1.7	2.9
Federal aid funds used	77,457	92,463	743,839	6.8	4.7	5.7

* Less than one-tenth of one per cent.

[fol. 117] Q. To what extent are Federal aid roads designed for local travel and are so used?

A. Practically all of the Federal-aid highways are in the State systems. Those which are not, are in the Government preserves. As no Federal-aid funds have been cred-

ited to county and local highways, it is safe to assume that none of the Federal aid roads are designed for local travel exclusively and they are not so used.

Q. What is their object and purpose and how are they used?

A. The original object of Federal aid in the construction of public highways was to provide suitable post roads. Subsequently the Federal-aid policy was broadened to cover those roads which may be classed as interstate roads, and arterial highways running between important cities within individual States. These roads carry the bulk of the vehicular traffic. They feed and are fed by other roads which are definitely local in character and used by few people, by cross roads running between Federal-aid roads and by some of the more important local roads which, branching off the main roads, traverse substantial areas and lead to the smaller towns.

Q. Describe and differentiate the use, in general terms, of Federal and State-aid and local or rural roads.

A. Highways have been classified into two great groups, or systems: The State Highway System, in which is included practically all of the Federal-aid roads; and the county and local highway system.

[fol. 118] The State Highway System consists of interstate roads and those main arterial roads which run between large cities by the most direct routes which feed and are fed by the principal local roads that branch off from them. These roads are under the jurisdiction of the State Highway Departments, and the funds for their construction and maintenance are also controlled by these departments. The funds are derived in part from State revenues or financing, and in part from the allotment of Federal appropriations.

The County and Local Highway System consists of neighborhood roads that are used by few people, cross roads running between the more important local roads, and the principal local roads which, branching off from the main arteries, pass through a fairly large area and lead to the smaller towns. These roads are under the jurisdiction of county and local authorities, and the funds for their construction and maintenance, however derived, are under county or local control.

The Federal-aid highways, almost all of which are within the State Highway System (some are in the Government Reservations) consist of those roads, the construction of which has been approved by Federal authorities and for the construction of which assistance is given by allotments of funds from the Federal treasury. The original idea involved in the Federal-aid program was to aid in the construction of good post roads but subsequently the program was much enlarged, so as to include such roads as were within the compass of a main arterial road system in the United States.

[fol. 119] Q. Approximate the ratio of so-called Federal and State-aid roads to all public roads in the United States.

A. At the end of 1930, there were 3,009,066 miles of rural roads in the United States, of which 324,496 miles or 10.8 per cent were in the State Highway System, and 2,684,570 miles or 89.2 per cent in the County and Local Highway System. The total mileage in the Federal-aid highway system, practically all of which is in the State Highway System, as approved to June 20, 1931, aggregated 196,877 miles, or approximately 6.5 per cent of the total rural mileage.

If to the rural highway mileage we add the latest estimated mileage of city streets, namely 260,000 miles, the total mileage of all public highways becomes 3,269,066 miles, of which 9.9 per cent is in the State system, 82.1 per cent in the county and local systems, and 8 per cent in the cities.

Of the total rural highways 693,559 miles or 23 per cent were improved and of this improved mileage 226,221 miles, or 32.6 per cent, were in the State systems and 467,338 miles or 67.4 per cent, in the county and local systems. There are no comparable figures available for city streets.

I submit for the record, as a partial answer to this inquiry, a table entitled Public Highway Mileage at End of Calendar Year, the table covering each of the years from 1921 to 1930. The figures I have read into the record are those for 1930 only.

[fol. 120]

(Parmelee)

Public Highway Mileage at End of Calendar Year

Source: United States Department of Agriculture, Bureau of Public Roads.

Year	Total mileage	Surfaced			Non-surfaced
		Total	High type	Low type	
All Highways					
1921	2,941,294	387,760	47,177	340,583	2,553,534
1923	2,995,727	439,341	64,188	375,153	2,556,386
1924	3,004,411	471,667	73,788	397,879	2,532,744
1925	3,006,083	521,260	76,904	444,356	2,484,823
1926	3,000,190	550,064	82,987	467,077	2,450,126
1927	3,013,584	588,721	91,935	496,786	2,424,863
1928	3,016,281	626,137	102,559	523,578	2,390,144
1929	3,024,233	662,435	112,454	549,981	2,361,798
1930	3,009,066	693,559	125,708	567,851	2,315,507
Per cent increase 1930 over 1921	2.3	78.9	166.5	66.7	*d*9.3
State Highway Systems					
1921	209,242	84,858	22,800	62,058	124,384
1923	251,611	111,400	34,186	77,214	140,211
1924	261,216	132,109	41,472	90,637	129,107
1925	274,911	144,854	48,349	96,505	130,057
1926	287,928	163,059	53,949	109,110	124,869
1927	293,353	176,566	60,138	116,428	116,787
1928	306,442	193,138	68,373	124,765	113,304
1929	314,136	208,324	75,113	133,211	105,812
1930	324,496	226,221	84,112	142,109	98,275
Per cent increase 1930 over 1921	55.1	166.6	268.9	129.0	*d*21.0
County and Local Highways					
1921	2,732,052	302,902	24,377	278,525	2,429,150
1923	2,744,116	327,941	30,002	297,939	2,416,175
1924	2,743,195	339,558	32,316	307,242	2,403,637
1925	2,731,172	376,406	28,555	347,851	2,354,766
1926	2,712,262	387,005	29,038	357,967	2,325,257
1927	2,720,231	412,155	31,797	380,358	2,308,076
1928	2,709,839	432,999	34,186	398,813	2,276,840
1929	2,710,097	454,111	37,341	416,770	2,255,986
1930	2,684,570	467,338	41,596	425,742	2,217,232
Per cent increase 1930 over 1921	*d*1.7	54.3	70.6	52.9	*d*8.7

d Decrease.

NOTE.—High type surface consists of bituminous macadam, sheet asphalt, concrete, brick, and block. Low type surface consists of sand-clay-topsoil, gravel, chert, and waterbound macadam.

[fol. 121] Q. What is the approximate annual cost of construction and maintenance of public roads in the United States, including Federal and State aid roads, local roads and city streets?

A. The annual cost of construction for city streets, generally termed "payments for outlays", has varied from

$286,928,000 in 1923 to $566,768,000 in 1927 and for the seven year period, 1923 to 1929, inclusive, has averaged $464,004,000 annually.

For construction and right of way for State Highways the annual cost has ranged from $279,246,000 in 1923 to $557,401,000 in 1929, and for the seven year period 1923 to 1929, has averaged $413,178,000 annually.

For construction and right of way of local roads, the annual cost has ranged from $239,047,000 in 1923 to $289,-180,000 in 1927 and for the seven year period 1923 to 1929 has averaged $264,822,000 annually.

Combining the figures for city streets and rural highways, we find that the annual cost of construction and right of way for all public roads in the United States including city streets but not including roads in Government reservations, has ranged from $805,221,000 in 1923 to $1,376,-796,000 in 1928 and for the seven*ty* year period, 1923 to 1929, has averaged $1,142,004,000.

Annual cost for operation and maintenance of city streets has ranged from $232,136,000 in 1923 to $332,454,000 in [fol. 122] 1929, and for the seven year period, 1923 to 1929, has averaged $285,434,000 annually.

Annual cost for operation and maintenance of state highways has ranged from $101,391,000 in 1923 to $156,665,000 in 1927 and for the seven year period, 1923 to 1929, has averaged $156,439,000 annually.

Annual cost for operation and maintenance of local highways has ranged from $226,656,000 in 1923 to $309,934,000 in 1929 and for the seven year period 1923 to 1929, has averaged $273,580,000 annually.

Combining the annual cost of operation and maintenance of city streets and rural highways we find that the annual cost of operation and maintenance of public highways ranged from $630,458,000 in 1923 to $820,972,000 in 1929, and for the seven year period, 1923 to 1929, averaged $715,-453,000 annually.

Annual interest charges on debt for city streets have ranged from $36,379,000 in 1923 to $79,862,000 in 1929 and for the seven years, 1923 to 1929, have averaged $60,247,-000 annually; for State highways the annual interest charges have ranged from $17,522,000 in 1923 to $45,835,-000 in 1929 and for the seven years 1923 to 1929 have averaged $31,095,000 annually; for local roads annual interest

charges have ranged from $2,660,000 in 1923 to $79,807,000 in 1928 and for the seven years 1923 to 1929 have averaged $51,681,000 annually; while for all public highways the an-
[fol. 123] nual interest charges have ranged from $56,561,000 in 1923 to $203,974,000 in 1929 and for the seven years 1923 to 1929 have averaged $143,023,000 annually.

Combining the figures for construction and right of way, operation and maintenance and interest charges for city streets, state highways and local highways, the annual cost of these three items for all public streets and highways ranged from $1,492,240,000 in 1923 to $2,382,850,000 in 1929, and for the seven years 1923 to 1929 averaged $2,000,482,000 annually.

If to the items just referred to are added the cost of material and equipment etc., for State highways, the annual cost of constructing and maintaining our public streets and highways has ranged from $1,507,796,000 in 1923 to $2,400,907,000 in 1929, and for the seven years 1923 to 1929 has averaged $2,019,351,000 annually.

The figures just summarized end with those for the year 1929, because no figures are yet available for city streets for a later period.

I submit as a partial reply to this inquiry a statistical table for the record in which the figures I have summarized are shown in detail for each year from 1923 to 1929:

[fol. 124] (Parmelee)

Expenditures—City Streets and Rural Highways (in Thousands of Dollars)

Year	City streets (all cities)	Rural highways			Total city streets and rural highways	% of total	
		State highways	Local roads	Total		City streets	Rural highways
			For Cost of Construction and Right-of-Way[a]				
1923...	$286,928	$279,246	$239,047	$518,293	$ 805,221	35.6	64.4
1924...	357,974	381,080	255,950	637,030	995,004	36.0	64.0
1925...	457,028	386,967	264,966	651,933	1,108,961	41.2	58.8
1926...	477,224	351,220	265,718	616,938	1,094,162	43.6	56.4
1927...	566,768	400,038	289,180	689,218	1,255,986	45.1	54.9
1928...	558,187	536,294	282,315	818,609	1,376,796	40.5	59.5
1929...	543,921	557,401	256,582	813,983	1,357,904	40.1	59.9
			For Operation and Maintenance				
1923...	232,136	101,391	296,931	398,322	630,458	36.8	63.2
1924...	247,681	135,239	249,858	385,097	632,778	39.1	60.9
1925...	265,724	160,190	226,656	386,846	652,570	40.7	59.3
1926...	296,804	162,793	255,328	418,121	714,925	41.5	58.5
1927...	308,955	186,665	279,254	465,919	774,874	39.9	60.1
1928...	314,286	170,212	297,100	467,312	781,598	40.2	59.8
1929...	332,454	178,584	309,934	488,518	820,972	40.5	59.5

[a] Cover outlays for city streets and cost of construction of right-of-way of rural highways.

(Parmelee)

Expenditures—City Streets and Rural Highways (in Thousands of Dollars)

Year	City streets (all cities)	Rural highways: State highways	Rural highways: Local roads	Rural highways: Total	Total city streets and rural highways	% of total: City streets	% of total: Rural highways
For Annual Interest Charges							
1923...	36,379	17,522	2,660	20,182	56,561	64.3	35.7
1924...	46,081	21,501	7,480	28,981	75,062	61.4	38.6
1925...	55,396	27,937	51,845	79,782	135,178	41.0	59.0
1926...	62,421	33,690	66,685	100,375	162,796	38.3	61.7
1927...	69,268	33,545	75,016	108,561	177,829	39.0	61.0
1928...	72,321	37,637	79,807	117,444	189,765	38.1	61.9
1929...	79,862	45,835	78,277	124,112	203,974	39.2	60.8
Total of Above Items							
1923...	555,443	398,159	538,638	936,797	1,492,240	37.2	62.0
1924...	651,736	537,820	513,288	1,051,108	1,702,844	38.3	61.8
1925...	778,148	575,094	543,467	1,118,561	1,896,709	41.0	59.7
1926...	836,449	547,703	587,731	1,135,434	1,971,883	42.4	57.6
1927...	944,991	620,248	643,450	1,263,698	2,208,689	42.8	57.2
1928...	944,794	744,143	659,222	1,403,365	2,348,159	40.2	59.8
1929...	956,237	781,820	644,793	1,426,613	2,382,850	40.1	59.9
Total Expenditures (Including "Equipment Material, etc.," for State Highways)[b]							
1923...	555,443	413,715	538,638	952,353	1,507,796	36.8	63.2
1924...	651,736	557,613	513,288	1,070,901	1,722,637	37.8	62.2
1925...	778,148	597,591	543,467	1,141,058	1,919,206	40.5	59.5
1926...	836,449	569,991	587,731	1,157,722	1,994,171	41.9	58.1
1927...	944,991	633,638	643,450	1,277,088	2,222,079	42.5	57.5
1928...	944,794	764,648	659,222	1,423,870	2,368,664	39.9	60.1
1929...	956,237	799,877	644,793	1,444,670	2,400,907	39.8	60.2

[b] "Total of above items" plus expenditure for "equipment material, etc.," for state highways for each year as follows: 1923, $15,556,000; 1924, $19,793,000; 1925, $22,497,000; 1926, $22,288,000; 1927, $13,390,000; 1928, $20,505,000; and 1929, $18,057,000.

[fol. 125] Q. Give for the last available ten years, separately, the annual expenditures on public roads of all kinds in the United States.

A. According to report of the Bureau of Public Roads, annual disbursements for highway purposes, that is, for rural roads in the State and County and Local Systems but not including city streets, were as follows:

1921	$994,104,000
1922	figures not available
1923	$952,353,000
1924	1,070,901,000
1925	1,141,058,000
1926	1,157,722,000
1927	1,277,088,000
1928	1,423,870,000
1929	1,444,670,000
1930	1,680,493,000

Q. What proportion of this sum was spent on so called Federal and State aid projects?

A. The annual amount spent on so-called Federal and State aid projects and the ratios to total expenditures for rural highways were as follows:

[fol. 126] 1921	$384,382,000 or 38.7 per cent
1922	No information
1923	413,715,000 or 43.3 per cent
1924	557,613,000 or 52.1 per cent
1925	597,591,000 or 52.4 per cent
1926	569,991,000 or 49.2 per cent
1927	633,638,000 or 49.6 per cent
1928	764,648,000 or 53.7 per cent
1929	799,877,000 or 55.4 per cent
1930	979,998,000 or 58.3 per cent

Q. What proportion have such Federal and State aid projects been to the total road mileage?

A. In relating Federal and State aid projects to the mileage of all rural highways there are two methods by which such relationship may be shown: (1) by relating the total mileage of State highway systems to the total mileage of rural highways, and (2) by relating the mileage of improved roads in the State system to the total mileage of improved roads in rural highways. The State highway systems include, of course, Federal-aid-highways.

In my answer, therefor-, I will utilize both methods, and in order to be brief will give the relationship in the first and last years of the period 1921 to 1930, and the average for the period 1921 to 1930 (except 1922 for which no information is available). I will file with the notary, as an exhibit, to appear at the end of this answer, a detail table [fol. 127] showing the relationship in each of the years.

In 1921, there were 2,941,294 miles of public highways in the United States, of which 209,242 miles or 7.1 per cent, were in the State systems. In that same year, the total mileage of improved highways was 387,760 miles, of which 84,858 mile or 21.9 per cent, were in the State systems.

In 1930, the total mileage was 3,009,066 miles, of which 324,496 miles, or 10.8 per cent, were in the State system, while the total improved mileage was 693,559 miles, of

which 226,221 miles, or 32.6 per cent, were in the State system.

These relationships have varied from year to year, but for the entire nine-year period, 1921 to 1930 (figures for 1922 not being available,) the average mileage of all public highways was 3,001,208 miles, of which 280,371 miles, or 9.3 per cent, were in the State systems, while the total average improved mileage of all public highways was 548,994 miles, of which 160,059 miles or 29.2 per cent, were in the State systems.

[fol. 128] Total Mileage and Improved Mileage in All Public Roads and in the State System

Source: Reports of the Bureau of Public Roads.

	Total mileage			Improved mileage		
		In state systems			In state systems	
Year	All public roads	Miles	Per cent of total	All public roads	Miles	Per cent of total
1921	2,941,294	209,242	7.11	387,760	84,858	21.88
1923	2,995,727	251,611	8.40	439,341	111,400	25.36
1924	3,004,411	261,216	8.69	471,667	132,109	28.01
1925	2,006,083	274,911	9.15	*521,260	144,854	27.79
1926	3,000,190	287,928	9.60	550,064	163,059	29.64
1927	3,013,584	293,353	9.73	588,721	176,566	29.99
1928	3,016,281	306,442	10.16	626,137	193,138	30.85
1929	2,024,233	314,136	10.39	662,435	208,324	31.45
1930	3,009,066	324,496	10.78	693,559	226,221	32.62
Aver.	3,001,208	280,371	9.34	548,994	160,059	29.15

Q. How much of this annual expenditure is paid for by motor vehicles and how much by the sale of bonds and notes, general property taxes and otherwise?

A. Before answering this question, I would point out that collections of fees for automobile licenses and collections of gasoline taxes are not expended in toto for public highways purposes. A small part of the collections is absorbed by collection costs, while other relatively small [fol. 129] parts are appropriated for other purposes, such as city streets, school funds, sea walls, inland waterways, etc. Further funds derived from license fees and gasoline taxes, on account of delays in transmission to public highways commissions, especially when collected late in the year, may not be available for highway purposes until the ensuing year.

The figures which I shall give, therefore, and their relationship to total expenditures, will be for those funds available for highways in a given year and their relationship to total highway expenditures. I will state only the figures

for 1921 and 1930 and the average for the nine years 1921 to 1930 (except 1922) and will present for the record a series of tables showing the figures for each year.

Total expenditures for State Highways in 1921 aggregated $384,382,000. Taxes and appropriations available for road purposes, all of these being secured from general property taxes, aggregated $67,233,000 or 17.5 per cent; motor vehicles fees totaled $101,284,000 or 26.3 per cent; gasoline taxes $2,374,000 or 0.8 per cent; bonds sold $111,397,000 or 29 per cent; and Federal aid funds used amounted to $77,457,000 or 20.2 per cent.

Total expenditures for State highways in 1930 aggregated $979,998,000. Taxes and appropriations available for road purposes aggregated $43,318,000 or 4.4 per cent; motor vehicle fees $289,802,000 or 29.6 per cent; gasoline taxes, $11,109,000 or 41.9 per cent; bonds sold $222,288,-
[fol. 130] 000, or 22.7 per cent; and Federal aid funds used $92,463,000 or 9.4 per cent.

For the nine years 1921 to 1930 (except 1922) the total expenditures averaged $633,495,000 and for this amount there was available from taxes and appropriations $54,387,000, or 8.6 per cent; from motor vehicle fees, $214,940,000 or 33.9 per cent; from gasoline taxes, $154,771,000 or 24.4 per cent; from bonds sold $126,941,000 or 20 per cent; and from Federal aid funds used $82,649,000 or 12 per cent. The figures I have just given are, of course, annual averages throughout.

The remainder in each year are derived from transfers from county funds, miscellaneous income and/or funds remaining from the previous year.

For local highway purposes, the expenditures in 1921 aggregated $609,722,514,000 or 57.2 per cent of the expenditures; from motor vehicle fees $15,117,000 or 2.5 per cent; from gasoline taxes $239,000, or less than one-tenth of one per cent; and from bonds sold $323,175,000 or 53 per cent.

In 1930 the total expenditures were $700,495,000. For this amount there were available from tax and appropriations $494,633,000 or 70.6 per cent; from motor vehicles fees, $54,911,000 or 7.8 per cent; from gasoline taxes $107,111,000 or 15.3 per cent and from bonds sold $94,685,000 or 13.5
[fol. 131] per cent.

The average annual expenditures for the nine years 1921 to 1930 (except 1922) were $604,534,000. There was avail-

able from taxes and appropriations an average of $432,876,000 or 71.6 per cent of the expenditures; from motor vehicles fees $39,952,000 or 6.6 per cent; from gasoline taxes $40,462,000, or 6.7 per cent; and from bonds sold $162,123,000 or 26.8 per cent.

For all public highways, the expenditures in 1921, aggregated $994,104,000. For these expenditures there were available from taxes and appropriations $415,747,000 or 41.8 per cent; from motor vehicle fees $116,401,000 or 11.7 per cent; from gasoline taxes $3,513,000 or 0.4 per cent; from bonds sold $434,573,000 or 43.7 per cent; and from federal-aid funds used $77,457,000 or 7.8 per cent.

For all public highways (except city streets), the expenditures in 1930 aggregated $1,680,493,000 and for these expenditures there were available;

From general property taxes $537,951,000 or 32 per cent;
From motor vehicle fees $344,713,000 or 20.5 per cent;
From gasoline taxes $518,220,000 or 30.8 per cent;
From bonds sold $316,973,000 or 18.9 per cent; and
From federal-aid funds $92,463,000 or 5.5 per cent.

During the nine years from 1921 to 1930 (except 1922), the average annual expenditures for highway (but not for city street) purposes were $1,238,029,000. For these there were available from general property taxes $487,262,000, [fol. 132] or 39.4 per cent; from motor vehicle fees $254,892,000 or 20.6 per cent; from gasoline taxes $195,233,000 or 15.8 per cent; from bonds sold $289,063,000 or 23.3 per cent; and from federal aid funds used $82,649,000 or 6.7 per cent.

I now submit for the record as a part of my answer to the question the following three tables:

[fol. 133]

(Parmelee)

Table A

Expenditures for State Highways and Funds Derived from Various Sources for State Highways and Their Relationship
(in Thousands of Dollars)

Source: Basic information from reports of the Bureau of Public Roads.

Year	Total expenditures for state highways	Funds available for State Highways derived from—									
		Taxes and* appropriations		Motor vehicle fees		Gasoline taxes		Bonds sold		Federal aid funds used	
		Amount	% of exp.	Amount	% of exp.	Amount	% of exp.	Amount	% of exp.	Amount	% of exp.
1921	$384,382	$67,233	17.5	$101,284	26.3	$3,274	0.8	$111,397	29.0	$77,457	20.2
1923	413,715	61,810	14.9	147,076	35.6	15,873	3.8	88,187	21.3	72,343	17.5
1924	557,613	38,367	6.9	174,817	31.4	47,810	8.6	101,653	18.2	91,401	16.4
1925	597,591	54,880	9.2	199,845	33.4	89,328	14.9	141,402	23.7	92,180	15.4
1926	569,991	48,148	8.4	224,552	39.4	134,302	23.6	103,847	18.2	79,164	13.9
1927	633,638	49,564	7.8	259,855	41.0	169,818	26.8	90,979	14.4	80,460	12.7
1928	764,648	54,424	7.1	259,135	33.9	234,164	30.6	121,483	15.9	80,798	10.6
1929	799,877	71,737	9.0	278,093	34.8	287,258	35.9	161,229	20.2	77,573	9.7
1930	979,998	43,318	4.4	289,802	29.6	411,109	41.9	222,288	22.7	92,463	9.4
Avg	633,495	54,387	8.6	214,940	33.9	154,771	24.4	126,941	20.0	82,649	13.0

* Consists of general property taxes.

[fol. 134]

(Parmelee)

Table B

Expenditures for Local Highways and Funds Derived from Various Sources for Local Highways and Their Relationship
(in Thousands of Dollars)

Source: Basic information from reports of the Bureau of Public Roads.

Year	Total expenditures for local highways	Funds available for local highways derived from— Taxes and ** appropriations		Motor vehicle fees		Gasoline taxes		Bonds sold	
		Amount	% of exp.	Amount	% of exp.	Amount	% of exp.	Amount	% of exp.
1921	$609,722	$348,514	57.2	$15,117	2.5	$239	*	$323,176	53.0
1923	538,638	354,228	65.8	35,718	6.6	4,137	0.8	128,782	23.9
1924	513,288	376,788	73.4	26,856	5.2	16,971	3.3	157,537	30.7
1925	543,467	412,825	76.0	46,546	8.6	24,834	4.6	144,413	26.6
1926	587,731	443,047	75.4	37,861	6.4	39,733	6.8	168,575	28.7
1927	643,450	477,913	74.3	40,240	6.3	46,860	7.3	181,081	28.1
1928	659,222	498,762	75.7	50,435	7.7	53,779	8.2	150,222	22.8
1929	644,793	489,171	75.9	51,886	8.0	70,493	10.9	110,635	17.2
1930	700,495	494,633	70.6	54,911	7.8	107,111	15.3	94,685	13.5
Avg	604,534	432,876	71.6	39,952	6.6	40,462	6.7	162,123	26.8

* Less than one-tenth of one per cent.

** Consists of general property taxes.

fol. 135]

(Parmelee)

Table C

Expenditures for All Highways and Funds Derived from Various Sources for All Highways and Their Relationship
(in Thousands of Dollars)

Source: Basic Information from Reports of the Bureau of Public Roads

Year	Total expenditures for all highways	Funds Available for All Highways Derived from—									
		*Taxes and appropriations		Motor vehicle fees		Gasoline taxes		Bonds sold		Federal aid funds used	
		Amount	% of exp.	Amount	% of exp.	Amount	% of exp.	Amount	% of exp.	Amount	% of exp.
1921	$994,104	$415,747	41.8	$116,401	11.7	$3,513	0.4	$434,573	43.7	$77,457	7.8
1923	952,353	416,038	43.7	182,794	19.2	20,010	2.1	216,969	22.8	72,343	7.6
1924	1,070,901	415,155	38.8	201,673	18.8	64,781	6.0	259,190	24.2	91,401	8.5
1925	1,141,058	467,705	41.0	246,391	21.6	114,162	10.0	285,815	25.0	92,180	8.1
1926	1,157,722	491,195	42.4	262,413	22.7	174,035	15.0	272,422	23.5	79,164	6.8
1927	1,277,088	527,477	41.3	300,095	23.5	216,678	17.0	272,060	21.3	80,460	6.3
1928	1,423,870	553,186	38.9	309,568	21.7	287,943	20.2	271,705	19.1	80,798	5.7
1929	1,444,670	560,908	38.8	329,979	22.8	357,751	24.8	271,864	18.8	77,573	5.4
1930	1,680,493	537,951	32.0	344,713	20.5	518,220	30.8	316,973	18.9	92,463	5.5
Avg	1,238,029	487,262	39.4	254,892	20.6	195,233	15.8	289,063	23.3	82,649	6.7

* Consists of general property taxes.

[fol. 136] Q. Dr. Parmelee, frequently you have stated that the figures used did not include the year 1922 because figures for that year were not available. Won't you just explain for the record what that situation is and why for that particular year you have not these figures available?

A. The great bulk of the statistics I have read into the record are taken from records of the Bureau of Public Roads, Department of Agriculture. That Bureau, while it has published its summaries of statistics for all other years of the decade I have covered, has never published any summaries for the year 1922. Although I understand that they have statistics in their files which relate to that year, the statistics for 1922 are now available to us.

Q. What is the approximate ratio of all so-called special motor vehicle taxes, including the gasoline tax, to such annual cost?

A. Special motor vehicle taxes, so called, include registration and license fees but do not include personal property taxes, Federal income taxes, nor State taxes on operating income of bus and truck transportation companies in those States in which such taxes are assessed. Gasoline taxes are now levied in all of the States.

In making the comparison requested, I shall confine myself to the year 1929, that being the latest year for which *to* complete and comparable information is available. The figures I shall give for special motor vehicle fees and [fol. 137] gasoline taxes are the total collections and include amounts that represent the cost of collection.

Total collections of registration and license fees in 1929 amounted to $347,844,000, while gasoline tax collections aggregated $431,636,000. The grand total of special motor vehicle taxes, including gasoline taxes was $779,480,000.

The total expenditures for construction, that is "outlays," for city streets in 1929 were $543,921,000; those for operation and maintenance, $332,454,000; those for interest charges $79,862,000; total expenditures for the three items combined were $956,237,000.

The expenditures for construction and right-of-way of State and local highways in 1929 were $813,983,000; for operation and maintenance, $488,518,000; for interest charges, $124,112,000; for equipment, material, etc., $18,057,000; and for the four items combined $1,144,670,000.

Applying now the total collections of special motor ve-

hicle taxes, including motor vehicle fees and gasoline taxes, to the cost of all public streets and highways, we find that in the year 1929 they would have paid only 32 per cent of the cost of construction and right-of-way cost of operation and maintenance, interest charges, and cost of equipment and material combined.

I submit a statistical table for the record, in which the details underlying this result are presented:

[fol. 138] (Parmelee)

Comparison of Motor Vehicle Fees and Gasoline Taxes with Street and Highway Expenditures—Year 1929

Item	Amount	Relationship of motor vehicle fees and gasoline taxes combined to street & highway expenditures* (per cent)
Total collections:		
Registration fees	$347,844,000	....
Gasoline tax	431,636,000	....
Total special taxes	779,480,000	....
Expenditures:		
City streets:		
Outlays	$543,921,000	....
Operation and maintenance	332,454,000	....
Interest charges	79,862,000	....
Total expenditures	956,237,000	82
State highways:		
Construction of right-of-way	$557,401,000	....
Operation and maintenance	178,584,000	....
Interest charges	45,835,000	....
Equipment, material, etc	18,057,000	....
Total expenditures	799,877,000	97
Local highways:		
Construction and right-of-way	$256,582,000	....
Operation and maintenence	309,934,000	....
Interest charges	78,277,000	....
Total expenditures	644,793,000	121
State and local highways combined:		
Construction and right-of-way	$813,983,000	....
Operation and maintenance	488,518,000	....
Interest charges	124,112,000	....
Equipment, material, etc	18,057,000	....
Total expenditures	1,444,670,000	54
All highways, including city streets:		
Construction and right-of-way	$1,357,904,000	....
Operation and maintenance	820,972,000	....
Interest charges	203,974,000	....
Equipment, material, etc	18,057,000	....
Total expenditures	2,400,907,000	32

* On the assumption that all these taxes had been expended exclusively on city streets, or exclusively on State and/or local highways, respectively.

[fol. 139] Q. To what extent do motor vehicles contribute to the general cost of government, exclusive of the roads which they use?

A. Motor vehicles, in addition to so-called special motor vehicles taxes, that is, registration and license fees and gasoline taxes, pay certain municipal and personal property taxes. These last may be considered as their contribution to the general cost of government. Personal property taxes are paid on the equipment owned by the individual or company. Municipal taxes are paid chiefly by motor vehicle agencies for franchises, privileges, etc. The exact amounts of these taxes are not known. An estimate, made by the National Automobile Chamber of Commerce, places these taxes for the United States as a whole in the neighborhood of $150,000,000 for the year 1930, of which $130,000,000 is credited to personal property taxes and $20,000,000 to municipal taxes.

Q. What is the policy of the automobile organization (and with what success) in this regard?

A. Generally speaking, the policy of automobile organizations with respect to taxation of all kinds is to discourage additional levies by whatever means and measures they deem appropriate. This is particularly the case in reference to proposed increases in motor vehicle taxation apply-[fol. 140] ing to commercial motor trucks and motor buses, which utilize public highways as a place of business and for profit, and with respect to which special privilege taxation has been considered in many jurisdictions. While their success in these efforts has been sporadic, the well-organized campaigns of automobile manufacturers and motor transportation organizations have undoubtedly kept motor vehicles to much smaller amounts than would otherwise have been the case.

As an example, the American Automobile Association, which is the national cooperative association of motor vehicle owners and operators, issued in March, 1931, a pamphlet entitled "Motor Vehicle Taxes," on pages 22 and 23 of which are given a number of principles enunciated by that Association as covering or controlling special taxation for motor vehicles. I will read four of these enunciated principles into the record:

"1. The state should be the sole special taxing agency—Federal, County and Municipal Governments should be excluded from the field.

"4. All money raised by such special taxes should be placed in the State Motor Vehicle Highway Fund and to secure the best results should be expanded under the supervision of the State Highway Department.

"7. Special motor vehicle taxes should be levied and used only for the improvement and maintenance of high-[fol. 141] ways used by the general public, i. e., for general highway traffic flow lines.

"9. Roads of a purely local interest, serving only local needs, should be financed out of local revenues obtained from local general taxes. Special assessments on adjoining land to defray a portion of the costs of such roads may be justified."

Q. What is the relationship of expenditure by the States for highways to the total State expenditures?

A. According to a compilation made by the Chamber of Commerce of the United States, based on "Financial Statistics of States 1929" published by the Bureau of the Census, the total expenditures made by the States in 1929 amounted to $2,061,017,000. Of this total, 36.5 per cent was expended on highways and (including slightly more than $11,000,000, or about one-half of one per cent, which was spent for waterways and certain miscellaneous purposes) 27.2 per cent was spent on education; 12.6 per cent on charities, hospitals and corrections; 6.1 per cent on general government; 4.6 per cent for interest, including interest on State highway bonds outstanding; 3.7 per cent for development and conservation of natural resources; 3.6 per cent for protection to persons and property. The remaining 5.7 per cent was expended for conservation of health and sanitation, public service enterprises, recreation, and miscellaneous items.

Q. To what extent, in general, does motor vehicle transportation compete with railroad transportation?

[fol. 142] A. Motor vehicle transportation competes directly with railroad transportation, with respect to those commodities and those passengers which are being or are to be transported between points directly served by rail.

In the past, competitive traffic was largely restricted to movements of freight or passengers over short distances only, but in recent years the movement by motor vehicle has been greatly extended. At the present time, for example, many commodities usually hauled by rail are transported by truck for several hundred miles, and it is also possible for passengers to go from coast to coast over the network of motor bus lines in the United States. Were competitive conditions as they were a few years ago, the larger part of this freight and passenger traffic would have moved via rail.

Another element to be considered in connection with passenger traffic is the effect of the privately owned automobile. It is impossible to state the full competitive effect of this type of transportation on rail transportation. Many passengers traveling in their own cars would not have traveled by rail had the automobile not been available. On the other hand, the fact that the interurban movement of passengers traffic by private automobile is five or six times as great as that by rail, and that rail passenger travel has been steadily declining since 1920, indicates the powerful effect of this kind of transportation when competing against railway service.

Q. Give the number of automobiles in the United States per year from 1920 to date, divided between passenger [fol. 143] cars, busses and trucks.

A. The number of automobiles in use each year in the United States is indicated by the number registered in each year. The numbers registered each year from 1920 to date, divided as between passenger cars, buses, and trucks, were as follows:

Year	Passenger cars	Buses (estimated)	Trucks and road tractors	Total
1920	8,215,859	10,000*a*	1,006,082	9,231,941
1921	9,346,195*c*	*b*	1,118,520	10,464,715
1922	10,864,128*c*	*b*	1,375,725	12,239,853
1923	13,479,608*c*	*b*	1,612,569	15,092,177
1924	15,407,724	52,925	2,134,724	17,595,373
1925	17,443,213	69,425	2,441,709	19,954,347
1926	19,157,365	79,806	2,764,222	22,001,393
1927	20,133,588	85,636	2,914,019	23,133,243
1928	21,286,800	92,325	3,113,999	24,493,124
1929	23,029,089	92,500	3,379,854	26,501,443
1930	22,947,440	95,400	3,480,939	26,523,779

a They were estimated at less than 10,000 in 1919. Hence this figure used for 1920.

b No estimate available.

c Includes buses.

[fol. 144] Q. Describe in general terms the common, contract and owner-operated carrier motor business, giving some details as to hauls, schedules, and service.

A. Legal authorities and courts recognize two general classes of carriers: (1) common carriers, and (2) private carriers. A common carrier is one who holds himself out to the public to carry persons or freight for hire. A private carrier is one who undertakes to carry persons or freight in a particular case or by special agreement for hire. As a practical matter, however, bus and truck operations are classified according to the character of the service they perform.

Motor vehicles for the transportation of persons include (1) private passenger automobiles; (2) common carrier buses operating over regular routes or between fixed terminal and on regular schedules; (3) common carrier vehicles operating as anywhere-for-hire vehicles, as taxicabs; (4) contract carriers, as chartered buses; (5) buses not operated for profit, as hotel buses and school buses.

Truck operations generally fall into one of four general classes: (1) where the truck is owned by the operator and is used in the transportation of his own goods or products and in the conduct of his business—the owner-operated truck; (2) the common-carrier trucker who operates over a regular route or between fixed termini, generally on schedules, and usually at published rates, from which he may not depart; (3) the contract carrier who enters into [fol. 145] specific contracts for the transportation of property with one or more shippers, but who does not hold himself out to haul for the public generally; and (4) the so-called anywhere-for-hire carrier, who holds himself out to serve the public generally but not over regular routes or on fixed schedules, and is in effect a common-carrier contract trucker.

Owner-operated trucks are usually owned and operated by manufacturers, merchants, jobbers, oil companies, packers, farmers and others in the conduct of their business and haul commodities owned by them.

Common carriers operate over regular routes or between fixed termini and on regular schedules. They ordinarily serve patrons who make shipments either occasionally or regularly, but not in sufficient quantity to make a full load.

The rates of common carriers usually must be published and not departed from.

The contract carrier may have contracts with and haul regularly for one or more shippers, according to the terms of the contract, or he may make special contracts with one shipper for a certain haulage and have no further business relations with that shipper.

In addition to furnishing transportation of goods from place to place, contract carrier- frequently furnish certain accessorial services, such as moving furniture from one city and setting it up in another city. Some contract carriers have special equipment for handling heavy machinery [fol. 146] which the ordinary contract carrier or common carrier would be unable to handle with ordinary equipment.

Anywhere-for-hire trucks are common carrier trucks in that they hold themselves out to serve the public generally, but do not operate over regular routes or on fixed schedules. They usually haul a full load for a single shipper each time. Their service is irregular, and frequently depends on weather conditions and the probability of obtaining a return load.

Q. Describe generally the change in transportation conditions since the advent of the automobile.

A. Before the advent of the automobile, land-borne traffic in the United States was by horse-drawn vehicle over rural roads, by waterways and by rail. Traffic by horse-drawn vehicle was generally for short distances and usually of a local character or to gain access to shipping points on waterways or railroads.

With the advent of the automobile, the character of the traffic changed entirely. Today commodities which formerly moved by water or by rail are moved long distances by auto-truck and passengers who formerly travelled by boat or train frequently travel now by private automobiles or bus. At the present time there is a network of bus lines all over the United States, while the motor truck companies number many thousand. This would be impossible if we had purely local roads, as 25 years ago, and is made practicable only because of the nationwide network of Federal-[fol. 147] aid highways that have been developed in the past 15 years.

Trucks and buses are now active competitors of the railroad and waterways.

Q. What per cent of the land-borne passenger traffic of America is handled by automobile?

A. As nearly as can be determined from records now available, the steam railroads handled less than 13 per cent of the interurban passenger traffic in 1930; electric railways handled 1.6 per cent; airplanes handled less than one per cent; while automobiles, including private cars and buses, handled at least 85 per cent in 1930.

The largest proportion of interurban passenger traffic in 1930 moved by means of the private automobile, namely, more than 80 per cent of the total.

Q. What per cent of the freight is so handled?

A. Statistics are not available for an exact reply to this question. Of the commercial freight traffic in the United States, the steam railways handled about 75 per cent in 1930; some 16 per cent was handled on waterways; pipe lines handled from 5 to 6 per cent; electric railways and airplanes combined handled a fraction of one per cent; interurban motor trucks handled a proportion that has been estimated at from 3 to 5 per cent—some authorities even placing it between 5 to 10 per cent. While the proportion handled by motor trucks appears relatively [fol. 148] small, its significance is more fully realized when I state that interurban truck traffic in 1930 has been variously estimated in total amount at from seventeen to thirty billions of ton miles.

Q. What class of freight is generally so handled by automobile?

A. In a hearing before the Interstate Commerce Commission in a case known as I. C. C. Docket 23400, Coordidation of Motor Transportation, it was shown that in the early years of motor transportation of commodities, the service was largely limited to the transportation of small package freight or that class of freight generally designated as less-carload (L. C. L.) freight; but that in recent years the character of the traffic had changed and now, in addition to handling L. C. L. freight, motor trucks also handle bulkier commodities which are generally classified as carload freight.

Commodities now handled by motor truck, in addition to small package or L. C. L. freight, include such items as fruits and vegetables, livestock, poultry, milk, automobiles,

coal, cotton, magazines and newspapers, machinery, pipe, etc.

Generally speaking, the commodities handled by truck take higher rates than the average rail hauled commodity. For this reason, the proportion of revenue taken away from the rails by trucks is much greater than the proportion of traffic lost.

[fol. 149] Q. How does this particular class of freight so handled affect railroad revenues and why?

A. Freight handled by motor truck affects the revenues of railroads in two ways. First, it reduces the revenues of the railroad by taking away from them freight which they would ordinarily have handled; and, second, it reduced their revenues on what they do handle because of the necessity of reducing their rates to meet the competition brought about by truck movements.

Because of lack of definite information, it is not possible to state definitely to what extent the transportation of commodities by motor truck has affected the revenues of the railroad- of the United States as a whole. That it has affected them to a marked degree is unquestioned. The following, taken from the proposed report of the Attorney-Examiner of the Interstate Commerce Commission in I. C. C. Docket 23400, Coordination of Motor Transportation, throws some light on this question.

Had the railroad hauled the number of bales of cotton received by truck at Houston, Galveston, and Texas City, Texas, during the six-month period August 1, 1930, to January 31, 1931, and those received by truck at Corpus Christi during the four-month period August 1, 1930, to December 1, 1930, and had this cotton been hauled at the average regular rate of $2.69 per bale, the rail revenues would have been increased by $3,043,743.01 and had this cotton been hauled by rail at the reduced rate of $1.57 [fol. 150] per bale which was necessitated by the truck competition, the rail revenues would have been increased by $1,770,460.71. This latter amount does not take into consideration, however, the losses in revenues which the rail carriers sustained by reason of the reduction in rates on the cotton which they did haul.

A witness for the Southern Pacific estimated that the Southern Pacific's loss in Revenue in 1929, on account of the diversion of traffic to the highways of California, was about $15,000,000.

A witness for the Atlantic Coast Line ascertained through a survey that the diversion of traffic to trucks in 1930 entailed a revenue loss to that railroad of $4,985,616.

These are only a few instances. When it is considered that many commodities formerly handled by rail are now handled in large and increasing amounts by truck, there can be no question, from the few examples given, that the loss in rail revenue by reason of this diversion of traffic amounts to many millions of dollars.

Q. To what extent in general have automobiles supplanted transportation by animal-drawn vehicles?

A. Because of a difference in the character of motor transportation, both as to commodities handled and length of haul, as compared with transportation by animal-drawn vehicles, it is not possible to state accurately the extent that the former has supplanted the latter. In my previous [fol. 151] testimony, however, I have attempted to give some idea of the tremendous increase in motor traffic. Keeping that in mind, the following facts will give a general idea of the displacement of transportation by animal-drawn vehicles, by motor transportation.

According to the Bureau of the Census, there were produced in the year 1909, 587,685 business and farm wagons. Ten years later, in 1919, the production was 347,151, and in 1929 the production was 97,229, a decline of 490,456 units or over 83 per cent during the twenty-year period.

In 1909, the production of carriages and buggies aggregated 828,411; while in 1919, 215,809 were produced and in 1929, 3,564. This represents a decline of 824,847 units or nearly 99.6 per cent during the twenty-year period.

If we compare the horse and mule population in the United States, we find, according to the Bureau of the Census, that as of April 15, 1910, there were 27,496,000, where as of January 1, 1920, there were 27,284,000. There are no comparable figures yet available for 1930. But we find also that, whereas in 1910 there were 24,043,000 horses and mules a decline of 5,206,000, or about 21.7 per cent. We also find that in 1910 there were 3,453,000 horses and mules not on farms, that is, in the cities, while in 1920, there were 2,084,000, a decline of 1,369,000, or nearly 40 per cent in ten years, and there is reason to believe that

[fol. 152] the decline in number has been as great or greater in the last ten years.

A further idea may also be obtained from the receipts of hay at some of the large markets. At New York, for example, the receipts of hay according to the Department of Agriculture during the period July 1, 1909 to June 30, 1910, aggregated 334,760 tons, while from July 1, 1929, to June 30, 1930, they were 24,443 tons, representing a decline in 20 years of 313,710 tons, or nearly 93 per cent. At Chicago there was a decline from 256,269 tons in 1909-1910, to 85,937 tons in 1929-1930, a decline of 170,332 tons, or about 66 per cent; and at St. Louis there was a decline from 200,456 tons in 1909-1910 to 73,704 tons in 1929-1930, a decline of 126,752 tons or 63 per cent.

Q. Give in general terms the size and weight, empty and loaded, of trucks in general use on Federal and State aid roads.

A. The capacity of motor trucks now in use on Federal and State aid roads ranges from ¾ ton to as high as 12 tons. The numbers of the ¾ ton type and of the 12 ton type, however, are relatively small. The range of trucks in general can be considered as between 1½ tons and 7 tons.

According to major specifications of the trucks to be produced in 1932, the chassis weights of the smaller trucks run as low as 3,000 pounds, while the weights of large size [fol. 153] trucks range as high as 14,800 pounds. For the 1½ ton to 5 ton truck, the range is generally from about 4,000 pounds to 11,000 pounds.

The gross weight, when fully loaded, for all trucks would therefore run from about 4,500 pounds to about 38,000 pounds while the range in gross weight fully loaded of those in general use would range from about 7,000 pounds to 22,000 pounds.

The range in weights, however, does not give a definite idea of the average weight or capacity of motor trucks now in operation. To determine this, consideration should be given to the relative production of the various sizes of trucks, and to the length of time that trucks are in service.

Generally speaking, the life of a truck approximates seven to eight years, and in general the empty weight of all trucks, averages about the same as their capacity.

Basing my calculations on the foregoing assumptions, I find that the average capacity of all trucks produced in

the years 1923 to 1930, inclusive, was 1.61 tons. This leads me to believe that the average capacity of all trucks now in operation must be about the same, or 3,200 pounds. This is because the great bulk of the trucks in present use must have been produced in these eight years from 1923 to 1930. The average weight empty of all trucks in general use in 1930 would therefore by 3,200 pounds and when fully loaded would be 6,400 pounds.

[fol. 154] Professor H. R. Trumbower, former economist with the United States Bureau of Public Roads, is authority for the statement, however, that motor trucks carry loads only about two-thirds of the time they are on the road, and that their average load when under load is about 80 per cent of their capacity. Any statement with respect to the average weight (empty and loaded) of all trucks using our rural highways is subject to these qualifications.

I submit for the record a statistical table showing the distribution of all trucks produced during the years 1923 to 1930, inclusive, according to rated capacity:

[fol. 155]

(Parmelee)

Per Cent Distribution of Motor Truck Production by Capacities—United States and Canada

Source: National Automobile Chamber of Commerce.

Period	Per cent distribution by capacity categories								Average capacity of all trucks (tons) *a*
	¾ ton or less	1 ton & less than 1½	1½ ton & less than 2	2 ton & less than 2½	2½ ton & less than 3½	3½ ton & less than 5	5 ton	Over 5 ton & special types	
1923	16.5	67.7	5.6	3.5	3.0	1.6	1.1	1.0	1.41
1924	15.0	71.6	4.7	1.9	3.3	.8	1.5	1.2	1.40
1925	14.7	70.2	5.3	2.2	3.0	1.1	1.4	2.1	1.44
1926	17.8	62.4	8.4	3.6	3.3	1.0	1.6	1.9	1.46
1927	17.7	64.3	5.9	5.5	3.3	.9	.8	1.6	1.42
1928	16.2	53.2	19.0	5.2	3.7	.8	.4	1.5	1.48
1929	17.1	9.5	63.4	3.4	4.1	1.0	.3	1.2	1.67
1930	24.00	5.2	61.7	2.7	3.8	1.0	.2	1.4	1.61

a Average capacity obtained by dividing the aggregate capacity by the total number of trucks. The aggregate capacity is the sum of the number of trucks in each category multiplied by the mean capacity in the respective category, except that for ¾ ton or less and the over 5 ton and special groups, ¾ and 5 tons, respectively, were used.

[fols. 156 & 157] Q. Dr. Parmelee, to what extent, in general, has the carrying capacity of trucks increased in the last few years?

A. There has been a very marked increase, both in rated and actual carrying capacity of trucks during recent years. Perhaps the most striking example of that that has come to my attention is this full-page advertisement appearing at page 45 in the Saturday Evening Post for March 19, 1932, the current number. It is an advertisement of General Motors Truck Company, Pontiac, Michigan, and the main display reads as follows:

"General Motors Trucks & Trailers for Every Run 1½ to 20 Ton."

Q. Doctor, suppose we hand this advertisement to the notary and let him incorporate it as a part of your answer?

A. Very well.

(The original advertisement is inserted at this point, as follows:)

* * * * * * *

[fol. 158] Q. Doctor Parmelee, trucks are by the various manufacturing corporations designated as 1 ton, 2 ton, 5 ton, and so on. Does that mean, in actual practice, that the limit of loading is the same as the factory rating?

A. I can answer the question from two angles.

Q. In the first place, regardless of the rated capacity of the truck, almost every truck that is made can be overloaded as to its rated capacity; in other words, it can be loaded to a much greater degree than its rated capacity indicates.

Taking the other angle, there seems to be little question that many trucks, particularly those of the larger sizes, are under-rated by the manufacturers; and that, if they were rated on the same relative basis as the smaller size trucks, their rated capacity would be much larger than it actually purports to be.

Briefly, a truck may be rated below capacity and, regardless of what its rated capacity may be, it can be and is constantly loaded to more than that rated capacity.

I have in my hand the latest statistical pamphlet put out by the National Automobile Chamber of Commerce, the 1931 edition of the pamphlet called "Facts and Figures of

the Automobile Industry," on page 9 of which appears a table entitled "Truck Production by Capacities." The table applies to the years from 1924 to 1930 inclusive. I would like to refer briefly to a figure which appears under [fol. 159] the 1930 column. In that year, according to this table, there were produced in the United States and Canada a total of 599,991 trucks. Of these, 1,094 or about one-sixth of one per cent, were rated at five tons; 6,683, or about 1.1 per cent, were rated at more than five tons or as special types. In other words, only slightly more than one per cent of the total number produced in that year were rated by the manufacturers at five tons or over. It is my opinion, without being able to prove it statistically, that the actual number of trucks produced at those ratings was greater than was reported by the manufacturers.

Another development in the truck field has been along the line of refrigeration for the handling over long distances of perishable products. Not long ago there was considerable publicity given in the press to a trip made from California to New York of a refrigerator truck loaded with perishable fruit.

Q. Describe the size, accom-odations, and carrying capacity of typical buses how used on such roads.

A. The typical bus now in use on rural roads of the United States is known as the Intercity type-single deck. These range in size from those which carry less than twelve passengers to those that carry over thirty-five passengers. Of the 2,513 buses of this type built in the United States for domestic use in 1930, 457, or 18.2 per cent, had a capacity of 15 to 17 passengers; 46, or 18.3 per cent, had a [fol. 160] capacity of 21 to 23 passengers; or 21.2 per cent, had a capacity of 27 to 29 passengers; and 600, or 23.9 per cent, had a capacity of 33 to 35 passengers. The average seating capacity of all buses of this type built in 1930 was 26.1 passengers.

The gross weight of a 10-passenger bus, which is about the smallest made, when filled to capacity is in the neighborhood of 6,800 pounds, while that of a 35-passenger bus is about 18,300 pounds. Allowing for an average weight per passenger of 125 pounds, the usual weight on which licenses are figured, the empty weight of buses in service on rural highways would in general range from 5,550 pounds to 13,925 pounds.

Number and Average Seating Capacity of Motor Bus Bodies of the Intercity Type (Single Deck) Built in the United States for Domestic Use

Source: National Association of Motor Bus Operators.

Seating capacity.	Number in Each Category					
	1925	1926	1927	1928	1929	1930
Under 12 passengers	17	10	36	....	5	2
12 to 12 passengers	277	118	120	138	96	57
15 to 17 passengers	718	769	517	528	248	457
18 to 20 passengers	361	551	356	101	46	54
21 to 23 passengers	1318	752	285	340	791	460
24 to 26 passengers	466	641	193	264	295	242
27 to 29 passengers	350	945	801	985	1070	533
30 to 32 passengers	18	9	99	98	259	600
33 to 35 passengers	7	15	36	129	43	85
Total	3847	3858	2469	2666	3031	2513
*Average seating capacity	21.2	22.3	22.7	24.6	25.5	26.1

[fol. 161] * Average capacity obtained by dividing the aggregate capacity (sum of the number of buses multiplied by the actual capacity) by the total number of buses.

Q. Dr. Parmelee, can you give us some idea of the relation between interstate bus travel and Federal and State aid highways?

A. The great development within recent years of motor bus service has been in the direction of coordinating local bus lines into long distance through routes. At the present time it is advertised by many of these bus lines that you can now secure definite connection without delay for a trip from New York to San Francisco and over other similarly extended routes. Along with that development has come the developements of night motor bus service. Some of the lines advertise sleeping buses with beds similar to those in Pullman cars, which are let down at night and then made up into sleeping compartments for passengers. I have in my hand a time table of the Pacific Greyhound Lines, corrected to January 4, 1932, in which, on page 18, there is the advertisement of what is known as the "Nite-Coach Limited," which runs both north and south bound between San Francisco and Los Angeles, California.

[fols. 162 & 163] I would also call your attention to a map issued by the National Association of Motor Bus Operators in 1930, on which are shown in red what are called the established motor bus routes in the United States; and a glance at this map will indicate the extent to which motor bus transportation has increased and has virtually networked the whole country. So far as I know, motor bus service is constantly increasing rather than decreasing and

it is my belief and opinion that this map, if brought up to date at the present time, would show and even more striking net-work than is shown by the map as it is.

Q. Doctor, I will ask you to hand that map to the notary, to be incorporated as part of your answer to the immediately preceding question.

A. I do so.

(The map appears following this sheet:)

* * * * * * *

[fol. 164] Q. How, when and to what extent has transportation by truck developed in the last several years?

A. Truck transportation has been largely a post-war development. The impetus given to the movement of commodities by truck during the war, and especially the appeals of the Government at that time to relieve rail congestion in so far as possible by truck transportation, has had a lasting and cumulative effect.

It is not possible to state definitely the full extent of this development. Some idea, however, can be obtained from the following facts:

The number of trucks registered in the United States in 1920 was 1,006,082, while in 1930 the agregate was 3,480,939, an increase of 2,474,857, or about 246 per cent, in ten years.

In the early years, truck transportation was largely a movement involving short distances. Today these movements are much larger and in many instances cover distances of 200, 300 and even in some instances of 700 miles.

There has also been developed in recent years the so-called tractor, and now the trailer and semi-trailer. With the use of these types of truck, and with the tremendous [fol. 165] increase in the maximum size of motor trucks themselves, the amount of traffic handled over the highways in a single truck unit, or in a group of units linked together in a long motor train, has been greatly intensified and increased.

Q. To what extent do trucks now handle livestock, cotton and other commodities, formerly handled almost exclusively by railroads?

A. According to reports of the United States Department of Agriculture, truck receipts of livestock at sixteen large markets aggregated 19,784,423 head or the equivalent

of 308,341 carloads in 1931. The sixteen markets were Chicago, Cincinnati, Denver, East St. Louis, Fort Worth, Indianapolis, Kansas City, Louisville, Milwaukee, Oklahoma City, Omaha, Portland, Ore., St. Joseph, St. Paul, Sioux City and Wichita.

And according to the same authority, the trucked-in receipts of 18 of the principal fresh fruits and vegetables at six markets in 1930 aggregated 59,799 equivalent carloads and for all fresh fruits and vegetables in 1929 "it is believed that between 150,000 and 200,000 cars would represent approximately the motor truck shipments which were displacements in effect of rail and boat shipments."

It was also shown in I. C. C. Docket 23400, Coordination of Motor transportation, that poultry receipts at Chicago by truck in 1929 were 29 per cent of the total freight, express and truck receipts; that 6.8 per cent of the milk re- [fol. 166] ceived in Boston in 1930 was received by truck, and 56 per cent in Philadelphia; that about 33 per cent of the normal tonnage of anthracite used at Reading, Pa., 50 per cent of that used at Lebanon, and 40 per cent of that used at Harrisburg are transported by truck; and that up to November 15, 1930 965,120 bales of the cotton crop of that year had moved by truck to Texas ports, and that of the total amount received at Texas ports during August, September and October, 1930, 28.1 per cent was received by truck.

These are only a few examples of the truck movement of commodities formerly handled almost exclusively by railroads. The list could be added to until it covered at least one hundred or more items.

Q. Compare, for the Nation, the taxes of all kinds, including ad valorem, privilege, license, registration and gasoline, paid by motor vehicles with those paid by railroads and what each receives in return.

A. According to the reports of the Interstate Commerce Commission, tax accruals of Class 1 Railways (excluding switching and terminal companies) in 1930 aggregated $348,553,953; and, according to the estimate of the National Automobile Chamber of Commerce, the taxes of all kinds on automobiles for the same year were approximately $1,000,388,720.

For the taxes which the railroads paid, they received in return benefits which the Government bestows on all in-

[fol. 167] dustries and on all the people in the United States.

For the taxes which the automobile paid, they received in return not only the same benefits as the railroads and the people generally but, in addition, rights of way and improved rural highways and the use of the city streets.

Q. To what extent, if any, does this result in discrimination against railroads, giving details?

A. In considering the question of discrimination, if any, against railroads, it is not sufficient to give consideration to taxes alone and the question is not so much a comparison of taxation as it is a question of whether the railroads and the motor vehicles each pay their own way.

The highways of the United States may properly be looked upon as the right-of-way of the motor vehicles. Unlike the railways, however, this right-of-way is not owned by them. The special taxes they pay may be considered as their maximum contribution to the construction and maintenance of that right-of-way. For comparative purposes, therefore taxes of all kinds paid by the motor vehicles should be compared with the annual carrying charges for right-of-way of the steam railways, plus their maintenance charges for right-of-way, plus all taxes paid by them.

Making this kind of a comparison, we find that, as stated in answer to the preceding question, the taxes of all kinds [fol. 168] paid by motor vehicles in 1930 aggregated, $1,000,388,720 and we find further that the annual carrying charges and maintenance of right-of-way and taxes of Class I railways in the United States for the year ended December 31, 1930, aggregated $1,385,816,000. The difference, namely, $385,427,280, represents the extent of the discrimination in 1930 against the railroads as compared with motor vehicles of all kinds.

It is not sufficient, however, in order to show discrimination against the railroads to stop at this point. It must be remembered that the railroad system of the United States is a commercial organization. Comparisons should therefore be made between their carrying charges and the total taxes which commercial motor vehicles pay. Unfortunately, we do not have sufficient information for commercial vehicles of the United States as a whole in order to make such a comparison, but we do have some information com-

piled from official reports of various State public service commissions, which throws some light on the subject.

In the Central Western Region the ratio of carrying charges and maintenance of right-of-way plus taxes, per dollar of operating revenues of Class 1 railways, was 26.8 cents in 1929, while the ratio of taxes to total operating revenues of 432 automotive transport companies operating in California, which is in the Central Western Region, was 4.5 cents per dollar.

[fol. 169] In Connecticut, in 1929, 58 "Jitney" companies paid 5.8 cents out of each dollar of revenue in taxes, and in Vermont, in the same year 67 automotive transport companies paid 2.8 cents out of each dollar of revenue in taxes; while in the same year it required 23.5 cents per dollar of operating revenues of Class I railways in the New England Region, which includes both Connecticut and Vermont, to pay their carrying charges, maintenance of right-of-way and taxes.

In Minnesota, which is in the Northwestern Region, the ratio of taxes to total operating revenues of 15 intercity passenger motor carriers in 1929 was 8.7 cents out of each dollar of revenue, while the ratio of carrying charges and maintenance of right-of-way plus taxes of Class I railways in that region in the same year was 27 cents per dollar of operating revenues.

In the Pocahontas Region, which includes all of Virginia, the ratio of carrying charges and maintenance of right-of-way plus taxes per dollar of revenues for Class I railways was 27.3 cents in 1930, while the ratio of taxes per dollar of gross revenues of 172 motor bus and truck companies operating in Virginia was 8.7 cents per dollar.

[fol. 170] These comparisons give some idea of the discrimination against the railroads, which is prejudicial in favor of the commercial motor vehicles.

Q. To what extent are the funds paid by railroads in taxes expended on facilities for the railroads to use?

A. No cases have ever come to my notice, where taxes paid by railroads have been expended on facilities which the railroads were able to utilize in any way.

Q. How is this as to automobile taxes?

A. Since about 95 per cent of the motor vehicle fees and gasoline taxes, is utilized for public roads, it is probable that not less than 90 per cent of all the taxes paid by auto-

mobiles are expended on facilities for the use of motor vehicles.

Q. To what extent has the Federal Government subsidized railroad competitors by land, air and water?

A. Railroad competitors by land, air, and water have been and are being subsidized directly and indirectly in many ways. These subsidies are measured by the amounts which the Federal Government has expended for the purpose of improving facilities for or encouraging the use of public highways, airways or waterways over and above what may have been paid back in the form of taxes by [fol. 171] commercial users of land, air and water facilities.

The amounts properly deductible from such Federal expenditures as being amounts that have been contributed by the several agencies benefited can not be stated with exactness. In my opinion, however, they are relatively small portions of the expenditures. This general statement is supported by the following specific discussion.

The total amount appropriated by the Federal Government for public highways for the period from 1917, when the first appropriation was available, to June 30, 1931, aggregated $1,040,000,000. Of this total $27,375,000 was expended for Administrative expenses and $1,012,625,000 was directly apportioned to the several States. Congress also appropriated $125,000,000 for each of the fiscal years 1932 and 1933. In addition, there was an appropriation of $80,000,000 in 1931 which was in the nature of a loan to the States, and is to be repaid over a period of five years beginning in 1934.

The amount of Federal aid actually used by the States is not available for the entire period since 1917, but for the year 1921 and the period 1923 to 1930, a total of $743,839,000 was so used.

The Federal Government has expended $772,122,301 on inland waterways for navigation improvements and for the maintenance of the waterways. During the seven years that the Government Barge Line has been operating on the [fol. 172] Mississippi and Warrior rivers, the Government has subsidized that service to the amount of $24,401,314. No taxes or tolls are paid by any private users of these waterways.

During the past four years, the Federal Government has expended approximately $8,500,000 in the construction of

airways, and the annual maintenance cost has approximated $5,000,000 annually. Many municipalities have also built airports at public expense. In addition, the excess cost of handling mail by airplane service, over and above the returns from postage received by the Federal Government, was $13,863,174 for the fiscal year ended June 30, 1930, and $17,167,501 for the fiscal year ended June 30, 1931. These deficiencies were indirect subsidies to air lines.

The amounts just stated are roughly the amounts by which the Federal Government has subsidized railroad competitors by land, water, and air.

Q. To what extent, giving details, has the Federal Government through land grants subsidized railroads?

A. The Secretary of War sets the total acreage of land grants to the railroads at 155,504,000 acres, of which 132,173,225 acres were actually patented or certified up to June 30, 1930. The railroads have not yet taken title to the balance.

[fol. 173] Theoretically the value of land was held at $1.25 per acre, but during the period 1950 to 1870 (when the bulk of the land grants were made) the average value of land sold by the Government was 94 cents per acre. Assuming this latter figure as the average value, the land grants received and patented had a value of $124,243,000.

These lands, however, were not outright gifts, for there were certain conditions, particularly a reduction in rates on Government supplies etc. which were involved. It has been estimated that the savings to the Government in peace times on account of the reduction in rates is approximately $5,000,000 and that therefore the Government has received the equivalent of the land grants every 25 years. Since the land grants were made over 60 years ago and since the conditions under which they were granted go on perpetually, the railroads have already returned to the Government, by their reduction in rates, over 2-2/5 times the amount of the land grants and the end is not yet.

From these facts it would appear that the railroads have in no way been subsidized by the Federal Government through land grants.

Q. Give for all Class I railroads the annual rate of return of their property investment for the last ten years.

A. The rate of return on property investment, that is, [fol. 174] the ratio that operating revenues, less operating

expense, taxes, hire of equipment and joint facility rent, bears to the book investment plus material and supplies and cash, for Class I railways in the United States, for the last ten years, is shown in a table I submit for the record, giving these ratios.

The ratios for 1931 shown in the table are based on the property investment as of January 1, 1931, instead of at the end of the year as is the case for the other years and are, therefore, probably overstated rather than understated. Investment figures as of the end of 1931 are not as yet available. (The table is as follows:)

Rate of Return on Property Investment, Railways of Class I

United States

1922.....	3.54 per cent	1927.....	4.27 per cent
1923.....	4.30 per cent	1928.....	4.61 per cent
1924.....	4.20 per cent	1929.....	4.81 per cent
1925.....	4.17 per cent	1930.....	3.27 per cent
1926.....	4.96 per cent	1931.....	1.96 per cent

fol. 175]

Eastern District

1922.....	3.49 per cent	1927.....	4.73 per cent
1923.....	4.68 per cent	1928.....	5.09 per cent
1924.....	4.41 per cent	1929.....	5.39 per cent
1925.....	5.12 per cent	1930.....	3.63 per cent
1926.....	5.52 per cent	1931.....	2.25 per cent

Southern Region

1922.....	4.23 per cent	1927.....	4.24 per cent
1923.....	4.73 per cent	1928.....	4.08 per cent
1924.....	5.01 per cent	1929.....	4.01 per cent
1925.....	5.63 per cent	1930.....	2.66 per cent
1926.....	5.19 per cent	1931.....	1.33 per cent

Western District

1922.....	3.39 per cent	1927.....	3.79 per cent
1923.....	3.78 per cent	1928.....	4.26 per cent
1924.....	3.74 per cent	1929.....	4.41 per cent
1925.....	4.01 per cent	1930.....	3.07 per cent
1926.....	4.30 per cent	1931.....	1.83 per cent

Q. Give the name and figures for the Nashville, Chattanooga & St. Louis.

[fol. 176] A. Figures for the Nashville, Chattanooga & St. Louis Railway comparable with those just given for the United States and for each of the districts were as follows:

1922.....	4.19 per cent	1927.....	4.75 per cent
1923.....	4.02 per cent	1928.....	5.24 per cent
1924.....	4.47 per cent	1929.....	5.86 per cent
1925.....	5.03 per cent	1930.....	2.55 per cent
1926.....	4.99 per cent	1931.....	0.99 per cent

Q. What form of transportation benefits mostly from grade separation projects and why?

A. Motor vehicles transportation benefits mostly from grade separation projects because of the diminution of hazard and saving of time. The volume of use of grade crossings is predominantly by automobiles, trucks, and buses, because for every railway train that passes over such a crossing, hundreds of motor vehicles utilize the same crossing.

Q. Are trains, under normal conditions, at grade crossings more dangerous to motor vehicles than motor vehicles are to trains—giving the reasons for your answer?

A. Trains, under normal conditions, at grade crossings are less dangerous to motor vehicles than motor vehicles are to trains because of the following facts:

[fol. 177] (1) Grade crossings are indicated to the motorist by many protective devices.

(2) Trains in approaching grade crossings give appropriate warning of their approach, whereas motorists give no advance warning of their approach and the whole burden of protection is placed on the railroads.

(3) Notwithstanding devices and warnings installed and maintained by the railroads, many grade crossing accidents occur, due to carelessness, negligence, or incapability of the motorists, or to defective mechanism of the automobile, which in turn is due to the carelessness or negligence of the motorists.

(4) The use of the average busy grade crossing by automobile is enormously in excess of that by train, there being frequently two or three hundred automobile movements to one train movement.

(5) A wreck of a passenger-train by a rail-motor accident endangers more lives on the train than the same accident does with respect to a motor vehicle.

(6) A wreck of a freight-train by a rail-motor accident causes a greater loss in property than the same accident does with respect to a motor vehicle.

[fol. 178] Q. Are motor vehicle accidents due in any large degree to grade crossing collisions with railroads—giving details?

A. According to the figures of accidental deaths in the United States issued by the National Safety Council, Incorporated, there were 30,858 fatalities in 1929 due to accidents in which automobiles were involved and of these 2,046 or 6.6 per cent, were due to collisions of automobiles with railroad trains.

According to the reports of the Interstate Commerce Commission the figures of which vary slightly from these just given, there were 2,085 fatalities at highway grade crossings in 1929 in which motor vehicles were involved (not including motorcycles) and of these 1,820, or 87.3 per cent were due to the train striking the vehicle and 265, or 12.7 per cent, due to the vehicle striking the train.

In 1930 there were 1,695 fatalities at highway grade crossings in which automobiles were involved, and of these 1,457, or 86 per cent, were due to the train striking the vehicle and 238, or 14 per cent, due to the vehicle striking the train. These figures refer to occupants of automobiles only. It is also of interest to note that in 1930, of the 4,283 accidents at grade crossings in which automobiles were involved, 1,255, or 29.3 per cent, were due to the automobile running into the side of the train.

[fol. 179] Q. Give for the last several years the number of persons riding in automobiles who were killed and injured in grade crossing collisions.

A. According to the reports of the Interstate Commerce Commission, the number of persons riding in automobiles that were killed or injured in grade crossing collisions were as follows:

1926	killed	2,062	injured	6,358
1927	killed	1,974	injured	6,068
1928	killed	2,165	injured	6,218
1929	killed	2,085	injured	6,347
1930	killed	1,695	injured	5,206

Q. Give for the same years the number of persons killed or injured in automobile accidents of all kinds.

A. According to the figures of the National Safety Council, Incorporated, the number of persons killed in automobile accidents of all kinds were 23,264 in 1926; 25,553 in 1927; 27,648 in 1928 and 30,858 in 1929.

Statistics for 1930 indicate that the corresponding number of motor fatalities in that year were not less than 32,500, and may have amounted to 33,000.

As to non-fatal injuries, it is calculated by the National Safety Council, Inc., that "there is a ratio of about 35 non-[fol. 180] fatal injuries to each fatality" of this type. On this basis, the total number of injuries in 1930 were at least 1,000,000.

Q. Give for several years the number of drunken drivers involved in grade crossing collisions.

A. It is not possible to answer this question with any degree of accuracy, since the reports of accidents to the Interstate Commerce Commission do not fully cover this feature. The following, however, has some bearing on this question:

In the month of July, 1931, there were 226 accidents at highway grade crossings in which automobiles were involved. With respect to three there was a definite statement made in the report that the driver was intoxicated. In the majority of the cases, however, it was stated that the accident was due to the carelessness of the driver, who drove his machine onto the rails in spite of proper warnings by enginemen, or in spite of standard signs, or audible and visible signals, or efforts of flagmen or watchmen to stop the approaching car.

Q. How many automobiles has the Government of the United States, through its Prohibition Department, as distinguished from the activities of the several States, their counties and cities, confiscated under the National Prohibi-[fol. 181] tion Act for handling illicit liquor?

A. According to the Statistical Division of the Bureau of Prohibition, 68,170 automobiles were confiscated for the handling of illicit liquors in the United States during the period from January 16, 1920, to December 31, 1931.

For the last six months of the period alone, confiscations amounted to 5,652 automobiles.

Q. To what extent have automobiles wrecked trains and with what results?

A. In the reports of the Interstate Commerce Commission accidents are classified as "Train Accidents" and "Train Service Accidents." Train Accidents are those in which there is damage to railroad property of $150.00 or more. Train Service Accidents are those in which damage to railroad property is less than $150.00.

In 1930, there were 173 train accidents in which automobiles were involved. In 48 of these derailment of the train occurred, while in 125 the damage was classified as of a miscellaneous character. The deaths and injuries resulting from these 173 accidents were as follows:

[fol. 182]

Employees killed	5	injured	12
Passengers killed	1	injured	76
Others killed	114	injured	105
Total killed	120	injured	193

I have no definite information as to the amount of the damage to property.

I attach, as part of this answer, two tables based on Accident Bulletins issued by the Interstate Commerce Commission:

[fol. 183] (Parmelee)

Table A

"Train Accidents" in Which Automobiles Were Involved

Source: Accident Bulletins of the Interstate Commerce Commission.

	1926	1927	1928	1929	1930
Number of Accidents:					
Derailments	28	34	49	49	48
Miscellaneous	70	73	77	127	125
Total	98	107	126	176	173
Number Killed:					
Employees	1	2	3	4	5
Passengers	....	1	....	1	1
Others	47	36	71	84	114
Total	48	39	74	89	120
Number Injured:					
Employees	22	19	14	16	12
Passengers	17	29	6	12	76
Others	54	66	62	96	105
Total	93	114	82	124	193

"Train Service Accidents" in Which Automobiles Were Involved

Source: Accident Bulletins of the Interstate Commerce Commission.

	1926	1927	1928	1929	1930
Number of Accidents:					
Total	4,907	4,756	4,927	5,029	4,108
Number Killed:					
Employees	1	6	5	4	1
Passengers	.....	.....	.....	.....	.....
Others	2,013	1,932	2,088	1,997	1,583
Total	2,014	1,938	2,093	2,001	1,584
Number Injured:					
Employees	62	58	60	58	43
Passengers	6	1	6	12	4
Others	6,203	5,900	6,070	6,159	5,043
Total	6,271	5,959	6,136	6,229	5,090

[fol. 184] Q. Please refer to Interstate Commerce Commission's official Accident Bulletin No. 99, and with that as a basis, particularly summaries No. 23, 50 and 78, comment on grade crossing accidents for 1930.

A. Accident Bulletin No. 99, published by the Interstate Commerce Commission, is the report for the calendar year 1930 of all "Collissions, derailments, and other accidents resulting in injury to persons, equipment, or roadbed, arising from the operation of steam railways in Interstate Commerce." The report gives the information in great detail.

On pages 11 and 12 of this report appear "Summary No. 23—Highway Grade-Crossings Accidents for the years 1930, 1929 and 1928," in which is summarized the number of persons killed and injured in this class of accidents segregated as to "train accidents" and "train service accidents," as to trespassers and non-trespassers and as to the cause of the accident.

Before going further, it might be well to explain that a "train accident" is one in which "railway property is damaged in excess of $150.00 owing to train operation or movement" while a "train service accident" is one "involving casualties in connection with the operation of cars or locomotives without damage to railway property in excess of $150.00."

On pages 14 and 15 of the report appears Table No. 50—"Analysis of Casualties in Highway Grade-Crossing Accidents, showing kind of protection offered at crossing at [fol. 185] the time of accident for the year ended December

31, 1930." The accidents and casualties are segregated as to train and train-service accidents, as to number of killed and injured, as to kind of crossing protection, as to character of the agencies involved and as to whether the accident resulted from the train striking the object or the object running into the train.

On page 54 of the report appears "Table No. 78—Analysis of train-service accidents at Highway Grade Crossings, included in table No. 70, for the year ended December 31, 1930," which shows the number of accidents, segregated as to the cause and the number of killed and injured, segregated as to the cause and as to employees, passengers, passengers carried under contract, other non-trespassers and trespassers.

From these tables, it would appear that there were 4,798 accidents at highway grade crossings in 1930, in which 2,020 persons were killed and 5,517 injured; that 112 were killed and 140 injured in "train accidents"; that there were 4,214 accidents, or nearly 88 per cent of the total, in which motor vehicles were involved; that there were 1,695 casualties, or nearly 84 per cent of the total, in which motor vehicles were involved; that there were 5,206 persons injured, or over 94 per cent of the total, in accidents where automobiles were involved; and that nearly one-third of the accidents were due to the train being run into by the other agency.

[fol. 186] As a part of this answer, I append five tabulated epitomes of certain information appearing in certain bulletins of the Interstate Commerce Commission referred to in the headings of these tabulated epitome.

Q. Are the figures for 1930, as given by you, together with the various comparisons and comments submitted, true for the previous several years, based on studies of comparable accident bulletins for such previous years?

A. In general, the accident bulletins indicate that the statements and comments made with respect to 1930 are true for the several preceding years, except that the number of accidents and casualties in 1930, in which motor vehicles were involved, were relatively greater than in the preceding years.

In this connection I refer to the five tabulated epitomes which are appended as part of my answer to the preceding question.

Q. From the official reports of the Interstate Commerce Commission referred to above, compare and comment specifically on the number of grade crossing accidents where automobiles arei nvolved and where animal drawn vehicles are involved.

A. In 1928, there were 4,927 accidents in which automobiles were involved and 115 in which animal drawn vehicles were involved or a ratio of nearly 42 to 1; in 1929, there were 5,029 accidents in which automobiles were involved and 87

Epitome of Table No. 50—Analysis of Casualties in Highway Grade-Crossing Accidents, Showing Kind of Protection Afforded at Crossings at Time of Accident, for Year 1928, Appearing on Pages 18 and 19 of the Interstate Commerce Commissions Accident Bulletin No. 97

Cause	Number of Accidents				Persons Killed				Persons Injured			
	Total	Where automobiles were involved	Where animal drawn vehicles were involved	Other	Total	Where automobiles were involved	Where animal drawn vehicles were involved	Other	Total	Where automobiles were involved	Where animal drawn vehicles were involved	Other
Train service accidents:												
Struck by train	4,299	3,697	113	489	2,187	1,840	51	296	4,624	4,276	79	269
Ran into side of train	1,276	1,230	2	44	266	253	....	13	1,894	1,860	2	32
Total	5,575	4,927	115	533	2,453	2,093	51	309	6,518	6,136	81	301
Train accidents:												
Struck by train	58	54	....	4	53	53	....	....	64	53	....	11
Ran into side of train	22	22	....	....	19	19	....	....	29	29	....	....
Total	80	76	....	4	72	72	....	....	93	82	....	11
Train service and train accidents combined:												
Struck by train	4,357	3,751	113	493	2,240	1,893	51	296	4,688	4,329	79	280
Ran into side of train	1,298	1,252	2	44	285	272	....	13	1,923	1,889	2	32
Total	5,655	5,003	115	537	2,525	2,165	51	309	6,611	6,218	81	312
Per cent:												
Struck by train	77.0	75.0	98.3	91.8	88.7	87.4	100.0	95.8	70.9	69.6	97.5	89.7
Ran into side of train	23.0	25.0	1.7	8.2	11.3	12.6	....	4.2	29.1	30.4	2.5	10.3
Total as reported	5,752	5,003	115	634	2,568	2,165	51	352	6,666	6,218	81	367
Difference	97	.....	....	97	43	.....	....	43	55	.....	....	55

(Parmelee)

Epitome of Table No. 50—Analysis of Casualties in Highway Grade-Crossing Accidents, Showing Kind of Protection Afforded at Crossings at Time of Accident, for Year 1929, Appearing on Pages 19 and 20 of the Interstate Commerce Commission Accident Bulletin No. 98

Cause	Number of Accidents				Persons Killed				Persons Injured			
	Total	Where automobiles were involved	Where animal drawn vehicles were involved	Other	Total	Where automobiles were involved	Where animal drawn vehicles were involved	Other	Total	Where automobiles were involved	Where animal drawn vehicles were involved	Other
Train service accidents:												
Struck by train	4,277	3,659	85	533	2,092	1,751	28	313	4,545	4,222	75	248
Ran into side of train	1,424	1,370	2	52	272	250	....	22	2,059	2,007	2	50
Total	5,701	5,029	87	585	2,364	2,001	28	335	6,604	6,229	77	298
Train accidents:												
Struck by train	81	77	....	4	71	69	....	2	86	83	....	3
Ran into side of train	30	29	....	1	15	15	....	....	45	35	....	10
Total	111	106	....	5	86	84	....	2	131	118	....	13
Train service and train accidents combined:												
Struck by train	4,358	3,736	85	537	2,163	1,820	28	315	4,631	4,305	75	251
Ran into side of train	1,454	1,399	2	53	287	265	....	22	2,104	2,042	2	60
Total	5,812	5,135	87	590	2,450	2,085	28	337	6,735	6,347	77	311
Per cent:												
Struck by train	75.0	72.8	97.7	91.0	88.3	87.3	100.0	93.5	68.8	67.8	97.4	80.7
Ran into side of train	25.0	27.2	2.3	9.0	11.7	12.7	....	6.5	31.2	32.2	2.6	19.3
Total as reported	5,912	5,135	87	690	2,485	2,085	28	372	6,804	6,347	77	380
Difference	100	.....	....	100	35	.....	....	35	69	.....	....	69

[fol. 189] (Parmelee)

Epitome of Table No. 50—Analysis of Casualties in Highway Grade-Crossing Accidents, Showing Kind of Protection Afforded at Crossings at Time of Accident, for Year 1930, Appearing on Pages 14 and 15 of the Interstate Commerce Commissions Accident Bulletin No.99

Cause	Number of Accidents				Persons Killed				Persons Injured			
	Total	Where automobiles were involved	Where animal drawn vehicles were involved	Other	Total	Where automobiles were involved	Where animal drawn vehicles were involved	Other	Total	Where automobiles were involved	Where animal drawn vehicle were involved	Other
Train service accidents:												
Struck by train	3,334	2,883	60	391	1,634	1,355	20	259	3,554	3,361	44	149
Ran into side of train	1,281	1,225	3	53	248	229	....	19	1,771	1,729	3	39
Total	4,615	4,108	63	444	1,882	1,584	20	278	5,325	5,090	47	188
Train accidents:												
Struck by train	88	84	....	4	103	102	....	1	113	89	....	24
Ran into side of train	22	22	....	....	9	9	....	....	27	27	....	....
Total	110	106	....	4	112	111	....	1	140	116	....	24
Train service and train accidents combined:												
Struck by train	3,422	2,967	60	395	1,737	1,457	20	260	3,667	3,450	44	173
Ran into side of train	1,303	1,247	3	53	257	238	....	19	1,798	1,756	3	39
Total	4,725	4,214	63	448	1,994	1,695	20	279	5,465	5,206	47	212
Per cent:												
Struck by train	72.4	70.4	95.2	88.2	87.1	86.0	100.0	93.2	67.1	66.3	93.6	81.6
Ran into side of train	27.6	29.6	4.8	11.8	12.9	14.0	....	6.8	32.9	33.7	6.4	18.4
Total as reported	4,798	4,214	63	521	2,020	1,695	20	305	5,517	5,206	47	264
Difference	73	.....	....	73	26	.....	....	26	52	.....	....	52

[fol. 190] (Parmelee)

Epitome of Table No. 78—Analysis of Train-Service "Accidents at Highway Grade Crossings" Years 1930, 1929 and 1928, Appearing in Interstate Commerce Commission's Accident Bulletins 99, 98, and 97 Respectively.

Year and Cause	Number of accidents	Persons killed	Persons injured	Per cent of total: Number of accidents	Per cent of total: Persons killed	Per cent of total: Persons injured
Year 1930:						
All causes	4,688	1,908	5,377	....	....	....
Struck by train–total	3,334	1,634	3,554	71.1	85.6	66.1
Automobiles	2,883	1,355	3,361	61.5	71.0	62.5
Animal drawn vehicles	60	20	44	1.2	1.0	2.8
Other	391	259	149	8.4	13.6	.8
Ran into side of train–total	1,281	248	1,771	27.3	13.0	32.9
Automobiles	1,225	229	1,729	26.1	12.0	32.1
Animal drawn vehicles	3	....	3	*	....	*
Other	53	19	39	1.2	1.0	.8
All other causes	73	26	52	1.6	1.4	1.0
Year 1929:						
All causes	5,801	2,399	6,673	....	....	....
Struck by train–total	4,277	2,092	4,545	73.7	87.2	68.1
Automobiles	3,659	1,751	4,222	63.0	73.0	63.3
Animal drawn vehicles	85	28	75	1.5	1.2	1.1
Other	533	313	248	9.2	13.0	3.7
Ran into side of train–total	1,424	272	2,059	24.6	11.3	30.9
Automobiles	1,370	250	2,007	23.7	10.4	30.1
Animal drawn vehicles	2	....	2	*	....	*
Other	52	22	50	.9	.9	.8
All other causes	100	35	69	1.7	1.5	1.0
Year 1928:						
All causes	5,672	2,496	6,573	....	....	....
Struck by train–total	4,299	2,187	4,624	75.8	87.6	70.3
Automobiles	3,697	1,840	4,276	65.2	73.7	65.0
Animal drawn vehicles	113	51	79	2.0	2.0	1.2
Other	489	296	269	8.6	11.9	4.1
Ran into side of train–total	1,276	266	1,894	22.5	10.7	28.9
Automobiles	1,230	253	1,860	21.7	10.2	28.3
Animal drawn vehicles	2	....	2	*	....	*
Other	44	13	32	.8	.5	.6
All other causes	97	43	55	1.7	1.7	.8

* Less than one-tenth of one per cent.

[fol. 191] (Parmelee)

Epitome of Summary No. 23—Highway Grade Crossings Accidents for the Years 1930, 1929 and 1928 Appearing on Pages 11 & 12 of the Interstate Commerce Commissions Bulletin No. 99

Causes	1930		1929		1928	
	Killed	Injured	Killed	Injured	Killed	Injured
Trespassers and non-trespassers:						
Automobiles	1,695	5,206	2,085	6,347	2,165	6,218
Animal drawn vehicles	20	47	28	77	51	81
All other causes	305	264	372	380	352	367
Total	2,020	5,517	2,485	6,804	2,568	6,666
Per cent automobiles are of total	83.9	94.4	83.9	93.3	84.3	93.3
Trespassers:						
Automobiles	14	56	16	90	8	51
Animal drawn vehicles	....	....	....	....	....	....
All other causes	52	44	71	68	84	69
Total	66	100	87	158	92	120
Per cent automobiles are of total	21.2	56.0	18.4	63.3	8.7	42.5
Nontrespassers:						
Automobiles	1,681	5,150	2,069	6,257	2,157	6,167
Animal drawn vehicles	20	47	28	77	51	81
All other causes	253	220	301	312	268	298
Total	1,954	5,417	2,398	6,646	2,476	6,546
Per cent automobiles are of total	86.0	95.1	86.3	94.1	87.1	94.2

NOTE: The original table shows the foregoing figures subdivided as between train accidents and train service accidents and also shows the causes in greater detail.

[fol. 192] in which animal drawn vehicles were involved, or a ratio of 52 to 1; and in 1930, there were 4,108 accidents in which automobiles were involved and 63 which animal drawn vehicles were involved, or a ratio of 65 to 1.

In 1928, there were 2,093 fatalities involving automobiles and 51 involving animal drawn vehicles, or a ratio of 41 to 1; in 1929, there were 2,001 fatalities involving automobiles and 28 involving animal drawn vehicles, or a ratio of over 71 to 1; and in 1930 there were 1,584 fatal-ties involving automobiles and 20 involving animal drawn vehicles, or a ratio of 79 to 1.

In 1929, there were 6,136 injured in accidents with automobiles and 81 in those with animal drawn vehicles, or a ratio of nearly 76 to 1; in 1929, there were 6,229 injured involving automobiles and 77 involving animal drawn vehicles, or a ratio of about 81 to 1; and in 1930, there were 5,090 injured in connection with automobiles and 47 in connection with animal drawn vehicles, or a ratio of over 108 to 1.

Further comparisons indicate that there was a relative increase in the number of accidents, fatalities, and injuries due to automobiles running into trains and practically no change with respect to animal drawn vehicles.

It would appear therefore that the hazards at grade [fol. 193] crossing in which automobiles are involved are showing a relative increase as compared with those of animal drawn vehicles and also that the increase is due to carelessness or negligence of the motorist.

Q. Referring specifically to Table No. 78, compare the instances when automobile ran into trains and when trains ran into automobiles.

A. In 1928 a total of 1,230 accidents, or about 30 per cent of the 4,927 accidents in which automobiles were involved, were due to the automobile running into the side of the train; in 1929 the number increased to 1,370, or 25.2 per cent, due to the automobile running into the side of the train; in 1930 the number of such cases was 1,225 or 29.8 per cent, due to the automobile running into the side of the train.

In 1928, 12.1 per cent of the fatalities and 30.3 per cent of the injuries in which automobiles were involved were due to the automobile running into the side of the train; in 1929, 12.5 per cent and 32.2 per cent, respectively, were due to the same cause; and in 1930, 14.5 per cent and 34 per cent respectively, were due to this same cause.

In this connection I again refer to the five tabulated epitomes which were appended as part of my answer to the second preceding question.

Q. Isn't it a fact that, considering all collisions between automobiles and trains at grade crossings, automobiles run [fol. 194] into trains approximately 30 per cent of the time?

A. Yes. The percentage was 29 per cent in 1930, and showed almost steady increases in preceding years. If the same general trend continued in 1931, the percentage rose above in that year. Statistics for 1931 are not yet available.

Q. Take the official report of the Interstate Commerce Commission of the statistics for the railroads in the United States for the calendar year 1930 and, referring specifically to Statement No. 56, show for the five years ending December 31, 1930, to what extent new grade crossing are being added, giving the pertinent details.

A. Statement No. 56 of the Interstate Commerce Commission annual report for the year 1930 shows grade cross-

ing statistics of Class I railways, including Class I switching and terminal companies. Among other things relating to grade crossing it shows for each of the years 1926 to 1930 the number of grade crossing actually added and the number of crossings actually eliminated.

According to the table there were 1,876 grade crossings added and 1,254 eliminated in 1926. In 1927 there were 1,909 added and 1,391 eliminated. In 1928 there were 2,088 added and 1,204 eliminated; in 1929 there were 1,945 added and 1,397 eliminated, while in 1930 there were 1,848 added and 1,984 eliminated.

[fol. 195] In each of the 4 years 1926 to 1929 the added grade crossings exceeded the eliminations, the excesses being as follows: 1926, 622; 1927, 518; 1928, 864; and 1929, 548. In 1930 the eliminations were 136 crossings greater than the addition.

At the beginning of the year 1926, there were 233,701 grade crossings in the United States. During the five years 1926 to 1930 an average of 1,446 were actually eliminated annually, but during the same period an average of 1929 new crossings were actually added annually, so that at the end of 1930 the number of grade crossings aggregated 240,673.

Q. How much each year for the last 11 years have railways paid; first in grade crossing eliminations; and, second, in grade crossing protection?

A. I will first give briefly the aggregate, and annual average, amounts expended during the eleven years ended December 31, 1930, and will then submit a table for the record which will give the figures in detail for each of the eleven years.

Gross capital and expenditures charged to Class I railways in the United States for the elimination of railway grade crossings with highways during the eleven years 1920 to 1930, inclusive, aggregated $203,694,024. This was an average of $18,517,639 per year.

[fol. 196] Charges to railway operating expenses for the protection of grade crossings totaled $239,528,737, an average of $21,775,340 per year.

In this connection, other items of expenditure should also be considered, such as expenditures for maintenance and depreciation of crossing signs. This expenditure averaged $12,491,232 per year, or an aggregate of $137,403,551 for the eleven-year period.

For the foregoing capitol and operating items combined, aggregate railway expenditures for the eleven years from 1920 to 1930, inclusive, were $580,626,312, an average of $52,784,210 per year.

The detailed table submitted for the record is as follows:

[fol. 197] (Parmelee)

Gross Expenditures for the Elimination of Railway Grade Crossings with Highways and Charges to Operating Expenses for the Maintenance and Depreciation of Crossings and Signs, and Protection of Crossings

Class I Railways in the United States, Years 1920 to 1930

Year	Gross expenditures charged to capital account *a*	Amounts charged to operating expenses: *b* For maintenance and depreciation of crossings and signs	For protection of crossings	Total
1920	$7,968,865	$12,552,326	$26,413,758	$38,966,084
1921	8,089,796	10,845,325	24,842,740	35,688,065
1922	9,571,874	10,758,068	20,956,961	31,715,029
1923	11,768,868	12,571,495	21,340,703	33,912,198
1924	13,814,155	12,090,487	21,633,679	33,724,166
1925	17,547,572	12,643,427	21,499,719	34,143,146
1926	21,398,812	13,108,842	21,243,344	34,352,186
1927	30,602,050	12,948,778	21,326,114	34,274,892
1928	27,010,627	13,160,624	20,660,029	33,820,653
1929	25,703,279	14,011,399	20,125,697	34,137,096
1930	30,218,124	12,712,780	19,485,993	32,198,773
Total 11 years	$203,694,024	$137,403,551	$239,528,737	$376,932,288

a From reports of the railways to the Bureau of Railway Economics and represents the gross cost charged to capital account for the separation of grades
b From annual reports of the Interstate Commerce Commission.

[fol. 198] Q. If all grade crossings in the United States were eliminated, what per cent of automobile fatalities and injuries would be affected?

A. During the year 1930, a total of 32,500 fatalities occurred on the streets and highways of the United States, in which motor vehicles were involved. The corresponding number of non-fatal injuries is estimated at 962,325. In that same year, the number of persons riding in automobiles who were killed at railway grade crossings was 1,695, while the number injured was 5,206. If all grade crossings were eliminated, the proportion of these total motor vehicle casualties that would have been obviated in 1930 would have been 5.2 per cent for fatalities and one-half of one per cent for non-fatal injuries.

Q. What would be the approximate cost of eliminating all such grade crossings?

A. Should the 240,673 grade crossings existent at the end of 1930 be eliminated at the same average cost per crossing as in 1926 to 1930, namely $37,326, it would require an expenditure of approximately $9,000,000,000.

Q. State the number of accidents at crossings of railway with railway.

A. There are approximately 14,500 crossings of railway with railway in the United States. At these crossings there were 87 accidents in 1926, in which 11 people were killed [fol. 199] and 121 injured, with a property damage of $155,-113; in 1927, there were 53 accidents in which 5 people were killed and 41 injured, with a property damage of $109,487; in 1928, there were 55 accidents, in which there were no fatalities, but 21 were injured and the property damage was $71,623; in 1929 there were 63 accidents, in which 2 persons were killed, 26 were injured, and the property damage was $108,631; and in 1930, there were 37 accidents, in which 1 person was killed, 20 were injured, and the property damage was $66,114. From these figures it is evident that the number of accidents, the number killed and injured, and the damage to property, have all been comparatively small and, what is more important, all show a definite downward trend. As between 1926 and 1930, the number of accidents at railway-with-railway crossings declined 57 per cent, the number of fatalities declined 90 per cent, the number of non-fatal injuries declined 83 per cent, and the property damage declined 57 per cent.

I submit a table for the record, showing the details of accidents and casualties at railway-with-railway crossings, for the years 1926 to 1930, as follows:

[fol. 200]

(Parmelee)

Accidents at Crossings Railway with Railway

Source: Reports of the Interstate Commerce Commission.

Year	Number of crossings at end of year	Number of accidents	Killed				Injured				Damage to railroad property
			Employees	Passengers	Others	Total	Employees	Passengers	Others	Total	
1926.....	14,636	87	3	8	..	11	31	68	22	121	$155,113
1927.....	14,705	53	2	..	3	5	9	25	7	41	109,487
1928.....	14,824	55	..	..	..	..	12	9	..	21	71,623
1929.....	14,614	63	2	..	..	2	18	8	..	26	108,631
1930.....	14,505	37	1	..	..	1	8	12	..	20	66,114

[fol. 201] Dr. C. S. Duncan, called by complainant as a witness, was duly sworn, examined, and testified as follows:

Direct examination:

By Mr. Hall:

Q. Dr. Duncan, please give your name, age and residence.

A. My name is C. S. Duncan. I am 52 years old. I reside at 2831 Audubon Terrace, Washington, D. C., and have an office at 902 Transportation Building in the same city.

Q. What is your present occupation and position?

A. I am an economist in the employ of the Association of Railway Executives, attached to the office of the General Counsel of that Association. My duties include the study of various phases of railroad problems, covering, among other things, the economic relationship between railroad and highway transportation.

Q. Doctor, what, in general, is your training for and experience in that work?

A. I have been in this position since October 1, 1922. Previous to this employment I was teacher of economics in the University of Chicago for several years and prior thereto at Ohio State University, Columbus, Ohio. In July, [fol. 202] 1918, I was called from university work to Washington by the Government. My work was with the Shipping Board at that time and I was abroad for the Shipping Board from September, 1918, to June, 1919, when I returned to this country and I then became the chief investigator for the National Industrial Conference Board; and from there I came into my present position.

Q. Have you read the copy of the petition filed by The Nashville, Chattanooga & St. Louis Railway in this cause?

A. I have.

Q. Describe in some detail existing transportation in the United States, that is, by railroad, motor vehicle, airplane and inland and coastal waterways.

A. There are in existence today in the United States four different transportation agencies, all seeking to perform the service of transportation demanded by the people of the country. These agencies are railroads, motor vehicles on the highways, airplanes, and water service. The railroad system of transportation is made up of trunk line systems, with branch or feeder lines, and of independent

short lines. These different types of railroads have been coordinated in their operation for the common purpose of serving the needs of the public most effectively. By means [fol. 203] of joint rates and through routes, commodities are carried by rail today from and to all sections of the country. Class I railroads, that is, those with a million dollars or more of annual revenues, aggregate a little more than 238,000 miles of road, representing about 92 per cent of the total miles of road in the country and, due to their longer haul, receiving approximately 97 per cent of the total rail revenues. The facilities of rail carriers are now and have been for several years fully adequate to carry all the commodities offered for transportation.

The total highway mileage in the United States is 3,016,281 miles, of which more than 324,000 miles are comprised in a Federal-State highway system, the remainder being county and local roads. At the end of 1930 the total highway mileage surfaced was about 700,000 miles, of which the Federal-State Highways aggregated more than 220,000 miles. This Federal-State highway system extends throughout the country, joining the main trade centers that have been built up on the basis of railroad transportation. Over these improved highways roll motor vehicles aggregating more than 26,000,000, of which something more than 23,000,000 are private passenger cars, more than 3,481,000 are motor trucks and more than 95,400 are motor buses. Private passenger cars are used in transporting individuals to and from places served by railroads. Likewise, motor buses are operated for the transportation of persons on a commercial basis over the highways in inter-city service. Motor bus operations now extend from coast to coast. Mo- [fol. 204] tor trucks run over these improved highways carrying commodities in intrastate and interstate commerce, all of which would have moved by rail if the trucks were not in operation.

A very considerable development has occurred in civil aeronautics during recent years. These airplanes are engaged in the transportation of mail, express, and persons. In 1930 the number of passengers carried over scheduled routes, according to reports from the Aeronautics Division of the United States Department of Commerce during 1930, was 417,505. The amount of mail transported by airplane

in the same year was 8,324,255 pounds and the amount of express 2,869,555 pounds. The number of passengers carried in 1930 was more than twice the number carried in the previous year and the increase in mail between the two periods was more than 500,000 pounds, while the increase in express in the same period was over one million pounds. The airplane routes extend now throughout the length and breadth of the country, joining the most important trade centers. The Federal airways system at the end of 1930 included 15,258 miles of route now equipped with beacon lights for night flying. The number of airports and landing fields available for the use of aircraft was 1,782 at the end of 1930.

The water service offered for transportation includes the Great Lakes, the coastwise service, the intercoastal [fol. 205] service through the Panama Canal and service on the inland waterways, consisting of canals and improved navigable streams. The latest available reports for 1929 show water-borne traffic on the Great Lakes as 20,158,592 tons in foreign traffic and 141,185,669 tons in domestic traffic. For the year 1930 the Chief of Engineers, U. S. Army, reported water-borne commerce on rivers and canals and connecting channels of the United States at 226,760,000 short tons. In addition, the coastwise traffic was 117,821,000 tons. The number of tons passing through the Panama Canal in either direction during the year ending June 30, 1931, was 28,093,000 tons, exclusive of foreign traffic. Other transportation factors include crude oil, gasoline and gas pipe lines and high-power transmission lines.

There were at the end of 1930, 53,000 miles of pipe lines for crude oil, 65,000 miles of natural gas pipe lines, 3,800 miles of pipe lines for carrying gasoline.

Q. Compare the existing situation with that of the period just before motor vehicles came into general use.

A. Assuming that motor vehicles came into general use about the end of the first decade of the present century, it may be said that the existing situation is in contrast with the period preceding this date by the facts that—

[fol. 206] (a) There has been little or no development in transportation agencies in competition with the railroads.

(b) Transportation by water except on the Great Lakes was of relatively small importance, the Panama Canal not then being completed and improvements of the inland water-

ways, except for New York State and similar canals, not having been begun; transportation by water on the whole was not at a low ebb.

(c) While an extensive system of pipe lines for carrying crude oil had developed by that time to serve the then existing fields of oil production, there was no system of pipe lines to the areas of oil production since development; there was no system of pipe lines for carrying gasoline; the system of natural gas pipe lines had not been greatly developed, except to serve local needs; the high-power transmission lines had not been developed; the highways had not been highly improved and still depended upon localities and communities for these improvements.

(d) The railroad system was the dominating agency for transportation and competition by other agencies was at a minimum.

Q. Compare traffic problems at grade crossings now with those of the "horse and buggy" days.

A. In the "horse and buggy" days, which I understand to mean the period prior to the general use of motor ve- [fol. 207] hicles operated at high speeds over highly improved highways, the traffic problems at grade crossings, that is, at points where railroads crossed highways, were greatly different from the traffic problems that exist at these points today. In that period, travel over the highways was almost wholly local and made up of farmers driving to the nearest town with the horse and wagon or in a buggy, the driving of flocks of sheep or droves of hogs and cattle to the nearest market, pedestrians walking along the highways and riders on horseback along the highways. In all of these cases, the rate of speed was relatively slow, the maximum probably not being much greater than five or six miles an hour. Night travel in that period was relatively very small. Being of a local character, those directly responsible for highway travel were generally informed as to the location of the rail-highway crossing and generally informed as to the train schedules on the railroads.

With a slow rate of speed and with daylight travel, a simple sign indicating the location of the crossing was sufficient. The traffic problems at grade crossings in that period consisted of—

(a) Requirement for a visible object to identify the location of the crossing.

[fol. 208] (b) Sufficient adjustment of the highway surface with the rails so that passage by vehicles would be possible. This was usually accomplished by heavy planks /oad at the approach to the rails and a plank roadway between the rails, with proper grading on each side.

(c) Requirement for audible warning of the approach of a train, such as a whistle or a bell.

With the above requirements met, the hazards were largely due to fright at the approach of a locomotive. Horses unaccustomed to the sight and sound of locomotives might become frightened and run away; animals driven along the highway might become frightened for the same reason and in a panic injure themselves in trying to escape. At crossings within cities a watchman, with or without a wooden gate, was ample protection to all those seeking to pass over the railroad.

Prior to the development of modern motor vehicles on the highway, railroad trains were operated at a slower speed than at the present time, but they moved at a much greater rate than persons riding horseback or in animal-drawn vehicles, or pedestrians on the highway. Under those conditions, a collision was practically the only chance of serious damage to the individual or to the vehicle and those in it and to animals moving on the highway. These animal-drawn vehicles were of relatively light weight and small size.

[fol. 209] The public roads were in existence before the railroads developed so that when the railroad came along it was felt that it should bear the burden of protecting those using the highways. Under these circumstances and in view of the fact that the railroad had come later than the highway, the responsibility for reasonable protection was placed upon the rail transportation service.

The situation today has greatly changed. Speed has greatly increased, night travel has greatly increased. The number of operations over the highway has greatly increased. As a result, traffic problems have become greatly complicated. The record shows that wooden gate protection is not enough to prevent many drivers of high-speed cars from crashing through on to the railroad track. While

automobiles on the highway have headlights which would reveal the location of a railroad-highway crossing, the drivers of many of these vehicles give no heed to these warning signs. The significant change in the traffic problem is that the railroads must now to a considerable extent be protected against highway operation, rather than that the highway operation be protected against the railroads. The number of accidents which have occurred as the result of motor vehicles running into the sides of passing trains is clear evidence of this fact. Furthermore, travel on the highway is no longer local. It can not be assumed that those who travel on these highways know either the location of the crossings or the time of the schedules on the rails.

[fol. 210] Before the advent of motor vehicles the highways were occupied by animal-drawn vehicles that were of relatively light weight and size. This condition, too, has been greatly changed. Motor vehicles in many cases run faster than the trains operate with the greatest ease and they enter upon railroad grade crossing at speeds faster than trains. These motor vehicles are no longer of small size and light weight. They run in length up to 65 or 70 feet. Some of them are of the capacity to carry the load of a railroad box car. Explosives and other dangerous commodities are carried by these motor vehicles over the highway and become at crossings a continued menace to the safe operations of trains. The records show some disastrous and terrible accidents resulting from such highway operations.

It is thus evident that entirely new traffic problems have arisen at grade crossings that were not in existence in the "horse and buggy" days. Hazards have multiplied but largely due to changes in operation on the highway. And yet the operators of these motor vehicles over the highways, who have brought about these new conditions and who have created these new dangers, have had and have now no direct responsibility to eliminate them.

Q. To what extent is the Federal Government aiding competitors of the railroads?

A. The Federal Government has aided and is aiding competitors of the railroads in a substantial manner.

The Federal Government has expended over $1,555,000,000 on river and harbor improvements since 1824, about [fol. 211] half of which, or $799,368,000 was expended for

flood control on rivers, so that the balance of $588,051,000 represents Government expenditures on rivers and canals for navigation purposes up to 1929. During the fiscal year ending June 30, 1929, the total expenditures by the Federal Government for river and harbor improvements of all kinds was $82,615,431. In 1931 there was passed the Rivers and Harbors Act, authorizing a number of waterway improvement projects whose final cost was estimated at $144,000,000, spread over a number of years. Different river and harbor appropriations for the fiscal year ending June 30, 1930, are estimated at $60,000,000.

The Federal Government itself operates the Inland Waterways Corporation in competition with rail carriers and has authorized capital expenditures for this corporation up to $15,000,000. It has also relieved the Corporation from taxes and interest on investment.

The Federal Government has aided rail competitors over the highway directly by a contribution, between 1917 and 1930, of $1,140,000,000 toward the construction of an improved Federal-State highway system. Its annual authorization at this time are $125,000,000.

According to a public statement by Postmaster General Walter F. Brown—

[fol. 212] "the air mail is far from self-sustaining. The postage which you attach to your air mail letters defrays less than half the actual cost of handling. The remainder is paid out of general appropriations." The Postmaster General added:

"It will be of interest to you to know that the Post Office Department is now spending about $17,000,000 a year for this purpose over and above the postage receipts from the air mail * * * Our purpose is to *be* popularize air transportation and air travel, so that "the people of our country will get the habit of using air transport in the ordinary affairs of their lives—in traveling, in sending merchandise and in communication—just as they use the railroads, the motor bus and the steamship."

In addition to this subsidy by the Federal Government through the Post Office Department, of air transportation, it is contributing also through the Department of Commerce. The Aeronautics Branch of that Department reported for the fiscal year ended June 30, 1931, an appropriation of

$10,362,300 by the Federal Government for "aircraft in commerce" and "air navigation facilities". Federal contributio for these two items for the six year period 1927-1932 totaled $35,844,600.

The Postmaster General likewise in the above public statement said:

[fol. 213] "Just as the government is using the air mail to provide support for commercial aviation, it is using the ocean mail as a medium through which to build up and maintain an American merchant marine; to this end the Post Office Department is now paying the steamship companies a little more than $19,000,000 a year for carrying the United States mails to foreign countries over and above the cost at ordinary poundage rates * * * This, of course, is ship subsidy * * *

"During the fiscal year ended June 30, 1930, the Department paid out on ocean mail under the Jones-White Act the sum of $13,000,000. During the current fiscal year, these ocean mail payments will reach about $19,000,000; they will amount to about $23,000,000 in the fiscal year 1932.

"Ultimately the annual payments to ocean mail contracts will reach a sum not less than $30,000,000 a year. The aggregate mail pay for the ten-year term covered by the existing 41 contracts will amount to about $280,000,000."

While these contributions are obviously for carrying mail in foreign service, some of the ship operators receiving it are likewise engaged in coastwise and intercoastal operations. In these latter operations they compete with the rail carriers. Furthermore, among these same operators are those who have been able to purchase Government boats at very low prices and on very easy terms.

[fol. 214] In this manner and by these means the Federal Government has been aiding competitors of the railroads.

Q. To what extent are the users of highways being required to directly finance grade crossing protection or elimination?

A. To no extent whatever are the users of highways being required directly to finance grade crossing protection or elimination. The finances required for the protection and elimination of rail-highway crossings are secured from two sources. The first is directly from railroads. The second is from general taxation. No user of the highway is

called upon to pay anything directly for the protection and elimination of hazards at rail-highway crossings. Of all these who enter into this situation at rail-highway crossings, the railroads alone are called upon to make direct contributions for protection and elimination of hazards. In some instances the entire expense of grade separation is borne exclusively by the railroads. In other instances, as, for example, the State highways, the railroads pay directly one-half and the other half is paid from general taxation to which the railroads liberally contribute. At important crossings rail highway operations are many times the rail operations. It is the railroad alone that pays anything directly or is asked to pay anything directly for the protection against any elimination of hazards. The rail competitor using the highway is not asked to pay anything directly [fol. 215] even though it uses the crossing in direct competition with the railroad and even though these operations are many times more frequent than the train operations. Furthermore, the contributions which the railroads make for the protection against and elimination of hazards at rail highway crossings contribute to the safe operation of automobiles on a competitive highway.

Q. Compare the benefits of grade crossing separation as between railroads and the users of the highways.

A. The benefits of rail-highway grade crossing separation accrue almost entirely to the users of the highways. The demand for such separation comes from the users of the highways. This demand is due to the new type of operation on the highways. The hazards which separation seeks to eliminate are directly due to the motor vehicles now operating over these highways in great numbers and at high speeds. The railroads assumed add- responsibility that arose from rail-highway crossings when the railroads developed. When new hazards arose, due to a new kind of transportation over improved highways, the burden of responsibility has been unjustly continued upon the railroads which the benefits have accrued to the users of the highway. A fair principle of equity is stated in the California law dealing with this subject—

[fol. 216] "The guilding principle being the assumption that costs should be divided in direct proportion to the benefits derived".

For the year 1930 Class I steam roads made gross expenditures of $30,218,*1924* for elimination of highway grade crossings. The irony is that these so-called safety expenditures, of little or no benefit to the rail carriers, make directly for safer operation by their competitors on the highways.

Q. Describe in general traffic on Federal aid roads, kind and character, the size and kind of vehicles, nature and extent of the use and service.

A. When the policy of Federal aid to highways was adopted by the National Congress, it was for the purpose, as stated in Section 6 of that Act, of making the contribution—

"to such projects that will expedite the completion of an adequate and connected system of highways interstate in character."

In carrying out this purpose, the Bureau of Public Roads has laid out a program for a system of Federal aid highways joining the principal trade centers throughout the country. According to a recent statement by the Director of the Bureau of Public Roads, the Federal Government has contributed to the improvement of around 100,000 miles [fol. 217] comprised in this program. The total mileage at present of the Federal-State highway system is somewhat more than 324,000 miles. The rate of improvement on this system through Federal aid is about 10,000 miles per year.

Over this highway system, laid out and improved for the purpose stated above, run motor vehicles of all kinds in "through operations". Private passenger cars traverse these highways throughout the country. There are in operation today motor buses running from coast to coast and from northern boundary to southern boundary of the United States. Truck operations over these same highways in through traffic cross state boundaries and serve various trade centers. It is claimed by truck operators today that economical operation can extend to 350 miles and instances are cited of operations up to 1,500 miles. These highways, improved to facilitate and expedite through service, are being used by all kinds of motor vehicles in precisely such service.

The motor vehicles operating over this improved highway system are of many sizes and many kinds. They comprise the small and large passenger car, the large and small motor buses, the large and small motor trucks. As to passenger cars, the seven passenger car represents perhaps the largest size. As to buses, seating capacity runs up to 35 or 36 passengers or more. As to trucks, there are recorded loads of 40,000 to 50,000 pounds. In recent years, [fol. 218] truck operations have tended toward attaching trailers so that actual trains of trucks are now plying these improved highways.

In these through operations, persons are carried by private passenger cars and buses, with the result that the railroads have lost the major portion of their passenger business. More than 50 per cent of this business has been diverted to the private passenger car and busses on the highways. In freight service a substantial proportion both of the less than carload traffic and of the carload traffic has been diverted to motor trucks on the highways. My judgment is, after considerable study and observation, that throughout the country the railroads have lost more than 40 per cent of their less than carload business. Within the last four years there has been a marked development in the carload freight field by motor trucks. Recent studies by the Interstate Commerce Commission indicate that motor trucks are now handling in the real of carload business, over and beyond general merchandise and miscellaneous freight of every kind attractive to truck operators, such commodities as livestock, fruits and vegetables, oil well supplies, oil products, dairy products, cotton, tobacco, coal, canned goods, road materials, furniture and office fixtures, paper and paper products, automobiles and automobile parts [fol. 219] and others. While no definite figures as to tonnage or ton mileage are now available for this truck service, the record indicates a substantial amount.

Q. To what extent do railroads contribute today and to what extent have they contributed for a decade to the general cost of government?

A. The railroads have contributed and are now contributing to the general cost of government through taxes on property and income taxes as shown in the following table:

[fol. 220] Taxes on Class I Roads, Calendar years 1920 to 1930

Year	State and Local	U. S. Government	Total
1920	$232,206,340	$50,542,597	$282,748,937
1921	238,340,073	38,898,318	277,238,391
1922	248,766,339	52,648,696	301,415,035
1923	254,371,391	77,699,877	332,071,268
1924	266,564,314	74,963,937	341,528,251
1925	271,691,877	87,680,010	359,371,887
1926	279,941,982	109,817,494	389,759,476
1927	291,011,559	86,031,418	377,042,977
1928	300,720,300	89,277,354	389,997,654
1929	308,569,958	90,690,857	397,260,815
1930	308,220,732	40,985,890	349,206,622

[fol. 221] Special taxes have been levied upon motor vehicles in the form of registration fees, gasoline taxes, small privilege taxes in some localities and property taxes. Practically all special taxes on automobiles are directly allocated to the cost of construction and the maintenance of highways. These highways, however, are public property and *his* government, whether Federal, State or local, derives no taxes from that highway. It is public property and is untaxed. This is in contrast to the roadway for rail carriers, which is private property and is heavily taxed.

No reliable figures are available to show the aggregate amount of property tax levied upon motor vehicles. In New Jersey, for example, no such property taxes are levied. There is information which clearly indicates that property taxes are not levied upon motor vehicles in many States corresponding to taxes levied upon the equipment of railroads.

The terminals in large trade centers belonging to railroads are private property and bear at least their proportionate share of the tax burden for the general cost of govenment. Motor vehicles operators over the highway, particularly in commercial operations, have no corresponding terminal facilities and, therefore, escape a corresponding property tax. These vehicles use the city streets largely free from expense, due to the fact that their taxes are [fol. 222] allocated to the urban highways.

In view of this situation, therefore, it may be definitely concluded that motor vehicles cost of government to the same extent or proportionately as do the railroads.

Q. To what extent in general have the large and heavy motor vehicles added to the cost to the public in building and maintaining Federal and State aid roads?

A. It is not possible at this time to ascertain a definite figure representing the additional cost to the public of building and maintaining Federal and State aid roads to accommodate very large and very heavy motor vehicles. The evidence, however, is very clear that this additional cost is a substantial one.

The Chief of the Bureau of Public Roads in the Department of Agriculture has stated in an article "Commercial Vehicles on Free Highways," published in the Journal of Land and Public Utility Economics, issue of October, 1925, that—

"When compared with the pavement required for dense passenger car traffic only such a pavement (suitable for heavy truck service) would have an extra thickness of about two inches of concrete—an extra cost of, say $10,000 a mile. Roughly, that is the measure of the additional cost [fol. 223] of building for heavy truck traffic."

In a hearing the Interstate Commerce Commission in I. C. C. Docket 23400, Coordination of Motor Vehicle Transportation, Mr. Clifford Older, formerly Highway Engineer for the State of Illinois and the man who directed the Bates Road Tests in that State during 1920-1923 and developed specifications for highway construction now used in more than 40 States, testified that highway specifications following these road tests call for a road to accommodate heavy vehicles at a substantial additional cost, both for construction and for maintenance. This additional cost he has calculated as amounting to $121,271,000 from 1927 to 1929 and $9,913,000 annually in the State of Illinois.

State Highway Engineer Moorefield, of South Carolina, has calculated the additional cost at $3,000 per mile, or 15 per cent additional, in the State of South Carolina.

Mr. Charles F. Marvin, a scientist in the United States Bureau of Standards, has calculated requirements of double the strength for highways to accommodate three ton vehicles and a strength from three to five times as great for vehicles up to 15 tons, over and above the strength required for private passenger cars.

[fol. 224] The Governor of the State of Virginia has announced a cost of $10,000,000 for reconstructing bridges in that State to accommodate heavy buses and trucks, constituting only two per cent of the vehicles.

If the calculation by the Chief of the Bureau of Public Roads of $10,000 per mile, as the additional cost to accommodate very large and heavy motor vehicles, is correct and if it be applied to the 100,000 miles of highly improved Federal aid highways, the aggregate additional cost would be one billion dollars.

Q. To what extent in general do motor vehicles compete with railroads and what has been the effect of such competition?

A. Motor vehicles on improved highways compete with the railroads both for passenger and freight traffic. Railroad passenger revenues were reduced from 1920 to 1929 by $414,000,000. This was a period of general prosperity, of a rapid increase in private passenger cars and bus operations and was without doubt a period characterized by general travel on the part of the people of the country. It becomes clear, therefore, that there has been a most substantial diversion of passenger traffic from the railroads to the highways. The Interstate Commerce Commission reports during the past five years—

[fol. 225] "nearly 75 per cent of the applications for authority to abandon rail lines alleged motor vehicles competition as one of the grounds for loss of traffic and decreasing revenues."

In the three decades preceding 1920, revenue ton miles of freight traffic for the Class I railroads of the country increased in each decade an average of over 76 per cent. In the period from 1920 to 1929 these revenue ton miles increased only 8.8 per cent and yet during this latter period there was a steady and large increase in the general volume of production and of traffic. Obviously, the railroads simply did not get the traffic as theretofore. That is, it went by other means of transportation. Among these other means of transportation are motor truck vehicle operations over the highways.

As has been indicated, motor truck competition with the railroads is most intensive in the short haul and less than carload traffic. Within the past four years, however, as clearly shown by evidence given before the Interstate Commerce Commission in I. C. C. Docket 23400, Motor trucks have entered extensively into the field of car load business. It is also universally declared that these motor vehicles

select the most remunerative traffic in both the less than carload and the carload traffic, undertaking to handle only [fol. 226] those commodities that pay best and are most suitable for motor truck operation.

The effect of this competition by motor vehicles with the railroads has been a most substantial reduction equal to more than 50 per cent of passenger revenues and likewise a substantial reduction in the percentage of increase of freight traffic. The financial situation of the railroads clearly reflects the effect of this diversion of passenger and freight traffic to the highways.

Q. Why are *goods* separations in general necessary or desirable and who are the principal beneficiaries and why?

A. The separation of highway and railway crossings in general is the extreme measure of protection between rail and highway operations. The simplest form of protection begins with a sign indicating the presence of the railroad across the highway, extends in degrees to signals, gates and, finally, separations. These separations are necessary and desirable where density of traffic by one or both agencies of transportation justify.

[fol. 227] The demand for grade separations in general has come as a result of increased operation over the highways. They are asked for the benefit of highway operation and highway operation is the principal beneficiary of grade separation.

Q. To what extent has the railroad passenger business declined in the United States from about 1925 to date?

A. The passenger revenues of Class I railways in the United States from 1925 are as follows:

1925	$1,057,704,231
1926	1,043,070,646
1927	976,177,636
1928	902,329,865
1929	873,564,246
1930	729,471,420
1931	551,049,791

From these figures it will be observed that the decline in passenger revenues of Class I railways in the United States between 1925 and 1931 was $506,654,440, or more than 47.9 per cent.

[fol. 228] Q. Describe in a general way the growth of freight transportation on the public highways.

A. Prior to the era of motor trucks, transportation of freight on the public highways consisted of local hauls by animal drawn vehicles, in the farm wagon or in the animal drawn truck in and around cities within a radius of a few miles. As stated heretofore, the railroads established stations in settled areas 4 to 10 miles apart within reach of such animal drawn vehicles, enabling such vehicles to make a return trip well within a single day. Hauling within the city limits and such deliveries as were made outside were likewise greatly circumscribed. Such operations were supplementary to any railroad transportation operations and were adjusted to rail operations.

Freight transportation on the public highways, however, has tremendously increased with the advent of motor trucks. A fairly clear idea of this growth may be had from figures showing the registration of motor trucks. The first record shows that for the year 1904 the number of trucks registered was 410. In the year 1910 the number of trucks registered was 10,000. This had risen in 1915 to 136,000, in 1920 to 1,006,082, in 1925 to 2,440,854 and in 1930 to 3,480,939. When it is remembered that these motor ve- [fol. 229] hicles have greatly increased in size and speed and that the mileage of improved highways, both within the cities and on the so-called rural highways, has tremendously increased within this period, the growth of freight transportation on the public highways is clearly indicated.

In 1926 Interstate Commerce Commission made a nation-wide study of motor vehicles transportation and issued a report in 1928 indicating that commercial motor truck operations of 45 miles or less were profitable, while the longer hauls were unprofitable. This indicated that the radius of successful operation by motor trucks, while considerably greater than the 10 to 12 mile radius of the horse-drawn truck, was still in the short haul field, and therefore, was largely confined to less than carload business where competitive with rail lines.

In 1930 and 1931 the Interstate Commerce Commission again surveyed the commercial operations over the highways and issued a report, printed as a Government document on January 6, 1932, in which they described the greatly extended use of motor trucks, both in less than carload traffic and in carload traffic in all parts of the country. This record showed the tremendous diversion of less than

carload tonnage to motor trucks on the highway for long distances and a most substantial invasion of the carload [fol. 230] field likewise for long distances. The evidence is clear that motor truck commercial operations on the highway are substantial competitors of the railroads in short haul less than carload business and in long haul carload business.

Q. Prior to the advent of the automobile, what was the nature, character and extent of the use of the public highways?

A. In the period prior to the advent of the automobile the use of the public highways was by animal drawn vehicles, by animal driven or ridden over these highways and by pedestrians. By necessity, such use was of a local character. It is also true that, since such use of the highway was of local character, commercial transportation both of persons and commodities was confined to rail carriers. The extent of use of the public highways was, therefore, far less than it is today. There was no complaint of any public highway being over-crowded and there was no demand at that time for a public highway of hard surface or for highway improvement of expensive character.

Q. How has the recently developed Federal-aid-system of public roads changed this condition?

A. The recently developed Federal aid system of public roads is intended, by the legislation directing it, to open up highly improved and extensive public highways for [fol. 231] through traffic. This is in direct contrast to the marked characteristic of the earlier use of the highway for strictly local and community operation. The contrast is between local operation and through operation. The development of the Federal aid system was directly intended to stimulate through operation. Today, private passenger cars, motor buses and motor trucks are operating over the Federal aid system of public roads in through traffic. It is perhaps not too much to say that by all these agencies through traffic is dominant on these Federal aid public roads.

Q. Detail in general and compare conditions at grade crossings, traffic thereon, and the likelihood of accident at the present time with conditions as they obtained before the advent of the motor vehicle.

A. Before the advent of the motor vehicle, the condition at grade crossings between the local and community opera-

tions over the highways and the operations over the rails of the railroads consisted of protecting the animal drawn vehicles and animals driven on the highway, pedestrians and those riding on horseback from accident, due to rail operations. As before stated, this was local and community highway travel, for the most part by day-light and there was every opportunity for those responsible for the highway travel to know train schedules at these crossings. Movement over the highway was slow and ample opportunity was offered to recognize the location of the crossing. Signs were placed by the railroads to indicate these locations, [fol. 232] readily discernible at sufficient distance for protection. Outside of cities on the rural highways, accidents at crossings were rare and even in the cities where railroads traversed city streets, watchmen were on duty or gates were operated in such a way as, according to the record, reasonably protected highway operation from railroad operation. This was a responsibility assumed by the railroads as a part of their duty due to the fact that the railroads came later than the highways and the operators of the railroads were presumed to be aware of the hazard when they entered into the undertaking.

As indicated, conditions have wholly changed to such an extent that today it is the railroads that must be largely protected from operations over the highway. On these highways are great numbers of motor vehicles traveling at high rates of speed and in large part on through movements, so that those in charge of such operations do not have the same opportunity to know the location of crossings or train schedules.

Despite this great change in highway operation, an effort, is made unfairly to have the railroads continue the responsibility at these crossings as they had prior to the advent of the motor vehicle. This has meant a substantial expenditure of capitol for highway grade crossing protection and elimination by the rail carriers, with little or no benefit to their own operations, but for the direct benefit and safer operation of their competitors on the highways.
[fol. 233] The record indicates that former means of protection at the highway, such as signs, gates and watchmen, are no longer equally effective in protecting the railway operation against the highway operation. Signs are

disregarded and gates are broken through by highway operators. Analysis of highway accidents indicates the lack of responsibility on the part of highway operators despite the signs and other protecting devices at these grade crossings.

The Interstate Commerce Commission collects and publishes data as to the accidents at highway-rail grade crossings in which trains are involved. These figures show 1,359 fatalities for 1932, rising to a peak of 2,165 for 1928, and declining to 1,695 for 1930. An analysis of the figures for 1930 indicates 84.1 per cent were passenger cars, 2.3 per cent buses, and 13.6 per cent trucks. Of this number, also, 1,457 fatalities occurred where the motor vehicle was struck by the train and 238 where the motor vehicle ran into the train. In the period from 1922 to 1930, there was an increase of 84.6 per cent in the number of fatalities at protected crossings and a decrease of 0.2 per cent at unprotected crossings. There was an increase in the same period of 118.3 per cent in the number of fatalities resulting from the motor vehicle running into the train crossing prior [fol. 234] to the advent of the motor vehicle. The source must, therefore, be found in the new agency of transportation over the highway.

Q. To what extent, if any, are the owners or users of automobiles required to directly participate in grade crossing protection or elimination?

A. To no extent whatever are the owners or users of automobiles required to participate either in grade crossings protection or in grade crossing elimination. Participation by owners and users of automobiles in any of the costs of improved highways or protection at railroad crossings, if any, is indirect through a tax on gasoline or on the automobile as private property, or through registration or other fees.

Q. What is the economic justification in requiring only railroads to so directly contribute?

A. There is no economic justification in requiring only railroads to contribute directly to the protection or elimination of grade crossings.

Q. To what extent and why in your opinion has there been a change in fundamental conditions requiring a shift in the burden of grade crossing elimination or protection?

A. In my opinion there has been a radical change in the fundamental conditions that requires a shift in the burden

of grade crossing elimination and protection from the rail-
[fol. 235] roads to the users of the highways. As has been stated, highway grade crossing protection was reasonably and adequately made by the railroads before the advent of motor vehicles. It may be assumed that the railroads were constructed with what might be called judicial knowledge of the need for protection at grade crossings. The railroads assumed this burden. With the advent of the motor vehicles, the more intensive use of the highways, the great increase in the number and speed of motor vehicles, the careless and unrained and irresponsible drivers of these high-powered swift machines, have entirely changed the fundamental conditions. To a very large extent it is now the railroad that needs protection against existing highway operation. To a very large extent also the benefits accrue to the operator on the highway and not the railroads. In my opinion the principle is sound that the parties benefited should pay the costs.

Q. For the years 1921 to 1930, both inclusive, to what extent have special motor vehicle taxes contributed to the actual disbursements by State and local authorities for public highways?

A. Special taxes on all motor vehicles have fallen far short of paying highway expenditures, even for the so-called rural highways, namely, outside incorporated places and outside thickly settled New England towns, as shown by the following figures:

[fol. 236] (a) Public road income from registration fees and gasoline taxes for the period 1921-1930 (except 1922 for which no information is available) was approximately $4,051,120,000

(b) Total disbursements in the same period by state and local authorities for highway purposes were $11,142,259,000

These figures were obtained from records of special motor vehicle taxes and disbursements for highways as published by the Bureau of Public Roads in the Department of Agriculture.

(c) Special motor vehicle taxes mention in (a) above in this period were approximately 36.5 per cent of disbursements. In the first year of the period—1921—special motor

vehicle taxes amounted to only 10.8 per cent of disbursements.

It is obvious from these facts that the Government has paid out of general tax funds approximately 63.7 per cent of the construction and maintenance costs of highways used by motor vehicles.

[fol. 237] DISTRICT OF COLUMBIA, aa:

I, Paul J. Robertson, a Notary Public in and for the District of Columbia, do hereby certify that the foregoing depositions of Dr. Julius H. Parmelee and Dr. C. S. Duncan were taken before me, on behalf of complainant, upon oral examination, in room 1024, Transportation Building, Washington, District of Columbia, on the 18th day of March, A. D. 1932, commencing at 2:30 o'clock in the afternoon, in pursuance of the agreements and stipulations set forth on the first page hereof; that previous to the commencement of his examination each of said witnesses was by me duly sworn to tell the truth, the whole truth and nothing but the truth; that thereupon said witnesses were carefully examined and their testimony was reduced to writing as hereinabove appears.

I certify that, being a stenographer, I took the foregoing depositions in the exact language of the witnesses, and reduced it to typewriting; and I will also certify that I am not in any capacity in the regular employ of the party in whose behalf this depositions are taken, nor in the regular employ of his attorney; and I certify that I am not interested in the case, nor of kin of counsel to either of the parties; and that pursuant to said agreements I sealed up said depositions, and delivered them to Fitzgerald Hall, Esq.

[fol. 238] Witness my hand and seal of office this 26th day of March, A. D. 1932.

Paul J. Robertson, Notary Public in and for the District of Columbia. My commission expires May 28, 1932. (Seal.)

[fols. 239-247] [Title omitted]

Stipulation

It is agreed that the attached article entitled "Who Pays For the Highways?" by Dr. C. S. Duncan, beginning on

page 210 of the Railway Age, dated August 13, 1932, may be treated as *as* exhibit No. 1 to and made a part of Dr. Duncan's deposition heretofore taken on behalf of the complainant in the above captioned case, subject, however, to all exceptions as to relevancy, competency and materiality.

This the 16th day of August, 1932.

Fitzgerald Hall, Counsel for Railway. Roy H. Beeler, Counsel for Defense.

[fol. 248] In Chancery Court of Davidson County

[Title omitted]

Depositions—Filed June 28, 1932

Washington, D. C.,
Friday, June 10, 1932.

Pursuant to adjournment, the examination of witnesses was resumed at 10:30 o'clock a. m. Friday, June 10, 1932, at the same place, with the same parties present.

Dr. Julius H. Parmelee resumed the stand for further direct examination.

By Mr. Hall:

Q. Mr. Parmelee, I asked you a question heretofore (page 19) which reads as follows:

"How much of this annual expenditure is paid for by mo-
[fol. 249] tor vehicles and how much by the sale of bonds and notes, general property taxes and otherwise?"

In your answer, in, for example, the Fourth paragraph, the total of percentages there slightly exceeds one hundred. Will you be good enough to explain this apparent discrepancy in this paragraph and let that explanation suffice for probably other paragraphs in the answer to the same question?

A. The figures I gave are correct and so are the per centages. The apparent discrepancy is due to the fact that the tital income in 1921 available for local highway purposes was greater by $153,000,000 than the expenditures. The percentage- shown here are computed on the basis of the income from various sources related to the total expenditures, and that ratio in total exceeded 100 per cent.

Q. Doctor, please comment on the character and number of accidents in recent years between trains and automobiles when the latter, that is automobiles, were transporting explosives and inflammables.

A. There are no regulations respecting the movement of explosives and inflammables in interstate commerce by automobiles, and, notwithstanding the fact that the laws in some States, or the rules and regulations, governing automobiles specifically forbid the transportation of inflammables and explosives in automobiles in intrastate com- [fol. 250] merce, there have been a number of accidents where other vehicles carrying such commodities were involved. The 1931 report of the Director of the Bureau of Safety to the Interstate Commerce Commission, pages 21 and 22, contains the following:

"Monthly reports of accidents filed with the Interstate Commerce Commission by the carriers include a considerable number of grade-crossing accidents involving trucks used for the transportation of explosives and inflammable liquids. In some instances the information is not sufficiently complete to permit an exact classification to be made, and in some cases it is not clear whether gasoline mentioned was lading or the contents of the truck fuel tanks. During the years 1929, 1930 and the first quarter of 1931, a total of 52 accidents of this nature was reported.

"Accidents of this nature are peculiarly horrifying because of the agony which the injured suffer as a result of burns and because of the hazard to all persons on the trains involved and in the immediate vicinity resulting from explosions and from the spread and ignition of quantities of highly inflammable liquids.

"Because of the potential danger to the traveling public special precautions should be taken to safeguard the passage over railroad crossings at grade of trucks loaded with these commodities. It is not sufficient merely to 'Stop, look [fol. 251] and listen'; it should be definitely known that no train is closely approaching before such a vehicle is permitted to start over a crossing.

"The transportation of explosives and inflammable articles on railroads engaged in interstate commerce is governed by Federal law and by regulations formulated by the Interstate Commerce Commission, acting under authority of the law; these however, apply only to common carriers

(railroads) engaged in interstate commerce—Any person, firm or corporation using the public highways for the transportation of these articles should likewise be required to conform to similar practices and regulations which are necessary to safeguard associated and conflicting traffic both on highways and on railroads."

Mr. Beeler: This witness is cross examined subject to the reserved right to note exceptions for competency, relevancy and materiality of the testimony on the hearing.

Cross-examination.

By Mr. Beeler:

Q. Mr. Parmelee, I believe you stated you were the Director of the Bureau of Railroad Economics. Will you state how the Bureau is maintained and I mean by that this: is it an associated or affiliated organization maintained by various railroads all over the country?

[fol. 252] A. The Bureau of Railway Economics was organized by the steam railways of the United States and has been maintained by them at all times since its creation.

Q. Do all the Class I railroads belong to that organization?

A. Yes, sir. In fact, the membership of the Bureau is the same as that of the American Railway Association, which includes not only all the Class I railways but many of the smaller railways as well.

Q. Now, Doctor do you know how highway construction in Tennessee is financed?

A. I am not sure that I understand that question, General.

Q. I mean by that this: from what sources is the revenue derived to construct highways in the State?

A. I am not familiar with the exact conditions in the State of Tennessee, no sir;

Q. And these figures and the testimony you have given, I take it, reflect general conditions prevailing throughout the United States rather than conditions in any particular State, except as reflected in the whole?

[fol. 253] A. That is correct. The figures are of a general nature, and I think I made that statement at the beginning of my testimony.

Q. And I take it you likewise do not know to what extent the various highways of the State of Tennessee are embraced in what is known as the State Highway System.

A. I have not those figures before me. They can easily be developed, I am sure.

Q. Well, now, do you happen to know whether or not there has been a decrease in the cost of construction of highways and in the mileage due to the general depression prevailing during the years 1930 and 1931 and up to the present time?

A. You are speaking now of conditions generally throughout the United States.

A. Yes, sir.

Q. It is difficult to bring any complete statistics of highway expenditures up to date because of the considerable lag in the availability of those statistics. Complete information is available in all details at the present time only through the calendar year 1930 and it is clear that the more [fol. 254] striking effects of the present depression were not fully felt until 1931 and during the period of 1932 to date. So far as the year 1930 is concerned, the expenditures in that year were greater than in any previous year. They were greater than in 1929, which was the next largest year of expenditure, by $236,000,000. Statistics are available at this time with respect to appropriations made by the Federal Government for Federal aid highway purposes for the fiscal year ended June 30, 1931. The appropriations for that year were $125,000,000, which was greater by $50,000,000 than in any of the six preceding fiscal years and was greater by $25,000,000 than in any single preceding year. The congressional act approved April 4, 1930, also authorized an emergency appropriation of $80,000,000, over and above the $125,000,000 I have mentioned, to be allocated to the States during the year 1931, on the basis of loans which might be repaid by the States during any part of the five year period beginning January 1, 1933. In other words, Federal appropriations for highway purposes have been greater in 1931 and 1932 than in any previous year.

Q. Now, to what extent, Doctor, do you attribute that to an effort on the part of the Federal Government to relieve the depression, and particularly unemployment?

A. That was largely the reason for those appropriations, that is, the effort to distribute employment among the dif-

[fol. 255] ferent States; but, whatever the cause, the effect of course, has been to release more money for highway construction purposes.

Q. Now, of that emergency appropriation of $80,000,000 you referred to, do you have available there, without going to any great effort or research, the allocation to Tennessee?

A. I have before me the Annual Report of the Chief of the Bureau of Public Roads to the Secretary of Agriculture for the fiscal year 1931, dated September 1, 1931, on page 5, of which table 1, is given the apportionment of this emergency advance fund of $80,000,000 to the several States. The amount allocated to Tennessee was $1,741,882.

Q. Do you know whether there are any figures available, Doctor, showing the comparative operation of motor vehicles over the highways of the State of Tennessee in any given year as related to the operations over the highways of sister States adjoining Tennessee?

A. You mean the density of traffic?

Q. Yes.

A. I have no figures; no sir.

Q. Have you any idea whether they can be obtained from any source or not?

[fol. 256] A. I would hardly like to venture an opinion, General. It is true that many counts of traffic have been made in many States, both by the State authorities and by the Federal authorities and in cooperation with research organizations and so forth. Whether that has actually been done in Tennessee or not I have not been informed.

Q. Would it or would it not be your idea that that traffic is perhaps heavier in Tennessee than in the adjoining States, perhaps due to the fact that Tennessee stretches all the way from the mountains to the Mississippi and lies directly in the pathway of north and south traffic.

A. Without having any basis statistics either for Tennessee or the adjoining States, I would prefer not to express an opinion.

Q. Do you know how many ton miles of freight the railroads of the country handled in 1930?

A. In the calendar year 1930, the railways of Class I handled 383,449,588,000 revenue ton miles and in addition they handled a total of 36,565,977,000 ton miles of so-called non-revenue or company freight.

Q. Now, do you have any comparable figure for that same period as regards motor trucks?

[fol. 257] A. No statistics are available for the year 1930. The Interstate Commerce Commission in its recent report in Docket 23400 entitled "Coordination of Motor Transportation" (the reference is 182 I. C. V. 263) at page 402 gave some estimates of its own with respect to the year 1929, which it referred to as "the last year of normal rail traffic." Its estimate of commercial freight traffic by motor truck in that year was 25,875,000,000 ton miles.

Possibly I should read into the record at this point the rail traffic for 1929 and in that way secure a comparison between the two factors for the same year. In 1929 the revenue ton miles of railways of Class I were 447,321,561,000. Not knowing what comparison you had in mind, I read also in connection with 1929 the non-revenue or company ton miles. I think for the comparison with motor trucks only the revenue ton miles should be used.

Q. Now, are there any considerable railroad operations in the United States outside of Class I railroads?

A. The ratio between the smaller railways and the total of all railways is very small. It varies somewhat from year to year. In normal years, however, it ranges perhaps between three and four per cent of the total.

Q. Do you have available any figures which would show the comparative percentage of common carrier truck traf-
[fol. 258] fic to the whole truck traffic in the United States.

A. The Interstate Commerce Commission in the same report to which I have just referred, at page 275, presented a chart, one part of which distributed the amount of truck traffic by class of operators. This is based on estimates for the year 1929. The total amount of commercial freight traffic by truck is divided, according to the Commission, as follows: Privately operated trucks, 50 per cent; contract carrier trucks, 30 per cent; common carrier trucks, 20 per cent. In other words, the answer to your question would be 20 per cent, or one-fifth.

Mr. Hall: It is agreed by both parties in this case that the entire report of the Interstate Commerce Commission in its Docket No. 23400, decided April 6, 1932, and reported in volume 182 of the Interstate Commerce Commission reports, commencing at page 263, may be referred to by either party to this cause, in its option and discretion, as if the whole contents thereof were incorporated into the technical record.

Mr. Beeler: That is agreed to.

By Mr. Beeler:

Q. Doctor, are not the railroads of the country using [fol. 259] heavier trains and heavier engines and more cars in the trains now than they formerly did?

A. The general tendency in the last ten years has been towards a larger capacity freight car, towards a more powerful and generally larger locomotive, and towards a greater length of train, that is, more cars in the freight train and more load in the train as a whole.

Q. How about the comparison as to speed?

A. The average speed of freight trains has been considerably increased in recent years; but it should be stated that that increase is due in large part to the reduction of road delays, that is, breakdowns, wrecks, and other delays between termini; and is not due to so great an extent to greater speed of movement while the train is actually in motion.

Q. Now, are not the roadbeds themselves in better shape than they have been heretofore, in years past?

A. That is the general opinion of railroad men, although it is impossible, at least impracticable, to produce a standard of measurement which proves that exactly.

Q. Well now, as automobile traffic increases over the highways of the State the hazard at railroad crossings increases proportionately, of course, doesn't it?

A. Yes, other things equal, the greater the number of units crossing a given point, naturally the hazard increases in that same proportion.

[fol. 260] Mr. Beeler: That is all.

Redirect examination.

By Mr. Hall:

Q. Mr. Parmelee, there are now pending in the Congress of the United States several so-called emergency or relief bills, including many items of public expenditures, and in practically all of those bills, including the so-called Garner Bill, which has passed the House of Representatives, is an emergency appropriation for Federal aid to public highways of the Nation, in the sum of $120,000,000 or thereabouts. Is not that correct?

A. Yes; that is correct. I have surveyed or gone over a number of these bills and they all contain some form of additional emergency appropriation for Federal highway aid.

Q. In other words, in spite of the depression, the Federal Government now proposes in these emergency bills to spend additional enormous sums for Federal-aid public roads?

A. That is correct.

Q. Do these emergency expenditures as proposed call for matching by the States of equivalent or equal or substantially equal sums, or are you familiar with that detail in these bills?

A. I am not quite clear on that point, Mr. Hall. The emergency appropriation of $80,000,000 to which I referred [fol. 261] a moment ago, provided that the amounts allocated would be in the form of a loan to the States and would be repaid. As to the provisions of particular bills pending, such as the Garner Bill, to which you have referred, I am not familiar with the bases of apportionment.

Q. Dr. Parmelee, in answer to one of General Beeler's questions about the volume of freight transported by trucks on the ton-mile basis, the figures you used came from page 402 of this Interstate Commerce Commission report?

A. Yes, sir.

Q. On its face this estimated tonnage excluded at least 60 per cent of all trucks in actual operation in the year in question, did it not?

A. Yes. Perhaps I should have stated a little more definitely what these figures covered and what they did not cover. I used the words "commercial freight traffic" when I spoke of them but did not sufficiently define what I meant and what the Commission meant by these words. The Interstate Commerce Commission in arriving at its estimates specified that they referred only to traffic handled by trucks in inter-city movements. That is, only between cities. They excluded all trucks operating within city limits and also excluded suburban operations, in instances where trucks had simply replaced or displaced the old type of delivery by horse-drawn vehicle. It is generally believed, although [fol. 262] statistics are not fully available, that at least 50 per cent of the number of motor trucks in service are engaged in purely urban or city and suburban operations and less than 50 per cent, possibly 40 per cent, are actually engaged in inter-city movements. For this reason the fig-

ures that I gave are not complete figures of the total amount of motor truck traffic on all streets and highways but are simply that proportion engaged in inter-city service.

Q. While this estimate of the Commission for the calendar year 1929 is that on the ton mile basis truck traffic was 5.8 per cent of rail traffic for the same year, it is a fact, is it not, that the goods, merchandise and material handled by the trucks generally is of that class which takes a much higher rate than the average commodity moving by railroads?

A. That is correct. In a very careful study of that question made by a special railway committee in Chicago last August and September it was found, on the basis of the best information available, that the average receipts per ton mile by truck on the type of commodities generally carried by truck ran from two to three times as high as the average receipts per ton mile by rail on the type of commodities generally handled by rail. This would indicate naturally that the class of commodities moving by truck was generally of a higher grade than the class of commodities moving generally by rail.

[fol. 263] Q. In other words, the effect on rail traffic of the operation of commercial trucks can not be accurately measured simply by the poundage transported, but rather by the revenues that they have taken?

A. Yes; that is correct; and the effect of such competition on rail revenues is relatively several times as great as the effect which the ton mile comparison would indicate.

In further answer to this inquiry I will read a section from testimony presented by me before the Interstate Commerce Commission in Ex Parte 103, the so-called Fifteen Per Cent Case of 1931, at Chicago, Illinois, on September 5, 1931. I was discussing at the moment what possible increase in truck movement of commodities would be necessary in order to offset the proposed increase in rates then desired by the railways, namely 15 per cent:

"The possible increase in truck competition should be considered from a practical standpoint in the light of past experience. If freight rates should be advanced 15 per cent as proposed a most serious diversion to other means of transportation would have the result, to more than off-set the expected increases in revenues. At least thirteen per cent of the revenues derived under the new rates would

have to be diverted. Truck competition would doubtless [fol. 264] be found active on the shorter haul and higher rated commodities, although to take away 13 per cent of rail freight revenue the truck would also find it necessary to handle many commodities now carried by rail at the lower levels of rate. Let it be conceded that the average revenue per ton mile on the classes of traffic that would be diverted from rail to highway, under the conditions here set out, would be twice as great as the average revenue per ton mile received by the railways on all freight traffic."

Commenting on this quotation, I would say that the committee which was largely responsible for the statistics and estimates contained in my testimony before the Commission were unanimously of the opinion that the average receipts per ton mile by truck are considerably more than twice as great as by rail, some even going so far as to express the opinion that the average receipts by truck per ton mile are five to ten times as great as by rail. In the absence of exact information, however, the committee selected twice the ratio, or two to one, as the most conservative and extremely moderate estimate they could possibly devise. I mention this to indicate that the ratio there used of two to one is undoubtedly an underestimate.

Q. Doctor, while rail traffic has been decreasing since 1929, the number of trucks in commercial transportation [fol. 265] and the length of their haul and the size of those trucks have constantly been going upward, have they not?

A. The number of trucks in service increased in 1930 compared with 1929, as indicated by the increase in truck registrations, despite the fact that the number of passenger automobiles registered in 1930 declined under the preceding year for the first time in automobile history. In 1931 there was a further decline, being more than 700,000, whereas the number of trucks showed a slight decrease, less than 20,000. At the same time the average capacity in tons of the motor trucks produced in 1931 was the same as of those produced in 1930, namely 1.61 tons per truck. While statistics are not available as to the average capacity of motor trucks registered, it is reasonable to believe that with a gradually increasing average capacity of motor trucks placed in service throughout production of trucks, and with the gradual elimination of the older and less ca-

pacious trucks, the average capacity of all trucks in service grows slightly greater from year to year; and there is no reason to suppose that 1931 was any exception to that rule.

As to the amount of traffic handled by truck in 1931, no statistics are available, although it was freely stated by shippers during the hearing before the Interstate Commerce Commission in 1931 in Ex Parte 103, and it has been reiterated by shippers and by motor truck manufacturers since those hearings, that more and more traffic is moving by truck daily.

[fol. 266] Q. Doctor, when we speak of the increase in the speed of freight trains in recent years, that does not mean that the speed of these trains over grade crossings is substantially any more than it was a good many years ago, does it?

A. I think not. I do not think that there has been any increase of the average speed at which a freight train goes across a grade crossing, and, as I stated before, the greater part of the increase in the average speed between termini (because that is the way the average speed of freight trains is measured), is due to the elimination of delays, either breakdowns of a mechanical nature, wrecks (of which there have been fortunately many fewer between grade crossings), and other delays from various causes.

While we are on the subject of accidents I would like to refer to my reply to question appearing on page 72 of this record which reads as follows:

"Isn't it a fact that, considering all collisions between automobiles and trains at crossings, automobiles run into trains approximately 30 per cent of the time?

In my answer, which was made on March 18, I forecast that the percentage would be greater than 30 per cent for the year 1931 but stated that statistics for that year were [fol. 267] not then available. Figures are now available from the Interstate Commerce Commission and it appears from those statistics that the percentage for 1931 was 32.1 per cent, showing a considerable excess about 30 per cent.

Mr. Hall: I think that is all. General, do you want to ask any further questions?

Recross-examination.

By Mr. Beeler:

Q. Doctor, with reference to Federal aid to railways, do you know the extent of loans which have already been made to the railroads of the country by the Reconstruction Finance Corporation?

A. I only know what figures appeared in the newspapers recently. I know the Reconstruction Finance Corporation has not been in the habit of giving out any reports to the public but a statement from the White House about a week ago set that figure at $170,000,000.

Q. Do you know how much more has been applied for by the railroads?

A. No, sir. I can not tell you that. I doubt if that information is available.

Q. Do you know, Doctor, how many of the States of the [fol. 268] Union require Certificates of Convenience and Necessity from their public service commissions to be issued to common carrier truck operators before they can operate?

A. Certificates of Public Convenience and Necessity for the operation of trucks in common carrier service are required in 35 States; permits are required in 2; while in 11 States, neither certificates nor permits are required.

Q. And in that connection, Doctor, do you know how many States, either by statute or by rules and regulations lawfully promulgated, undertake to limit the load on the trucks that operate over the highways?

A. All of the States have laws or rules and regulations relative to weight limits above which trucks may not operate.

In most of the States the provision is found in the laws relating to the operation of motor vehicles. In a few States, the weight limits are specified in the rules and regulations issued by the governing body relating to the operation of trucks. In two States, the weight limits are fixed by the State highway commission.

Q. Doctor, in the preparation of that Ex Parte 103 for hearing, was not there considerable development by way of proof showing the carriage of freight by water, especially from the Pacific Coast around through the Panama [fol. 269] Canal and up to the Atlantic seaboard?

A. There were some exhibits filed by shippers and shippers' representatives to that effect.

Q. Now, do you know whether it was shown in that record that freight could be shipped from the Pacific Coast through the Panama Canal and up the Atlantic Coast, up as far as New York and even down through the Great Lakes to Chicago, cheaper than the same freight could be sent by railroad from the Pacific Coast to the same points?

A. It was shown that freight was actually moving in those general channels, the implication being that the total cost of such roundabout movements by water was less than of the direct movement by rail.

Q. And did that record show that there was about $30,000,000 worth of freight charges paid to the common carriers via the Panama Canal, shipping freight from the Pacific Coast up as far as Chicago?

A. I do not recall exactly the figures. The data that I have in mind were in the form of a quite voluminous set of exhibits, bound together, and those statistics, as I now recall them, were in terms of tons moved and commodities rather than freight revenue derived.

Mr. Beeler: That is all.

[fol. 270] Redirect examination.

By Mr. Hall:

Q. Doctor when you referred just then to cost, you meant the rate to the shippers as distinguished from the cost of the service to the carriers?

A. Oh yes, I meant the cost borne by the shipper, regardless of other costs which might place a burden on the taxpayer or the Government or on other factors of our economic life, other than the shipper himself.

Q. As a matter of fact, there is no Government authority to fix either maximum or minimum or reasonable rates of transportation by waterway through the Panama Canal, is there?

A. That is true—nor governing any port to port rate.

Q. So that when a railroad files its rates with the Interstate Commerce Commission for transcontinental freight, the water carriers may privately, by secret agreement, but

still within the law, make lesser freights, unknown to the general public?

A. It is not only true that they may but it is generally understood that they do.

Q. Reference was made to loans by the Reconstruction Finance Corporation to railroads. All those loans are made [fol. 271] on banking principles, requiring the execution of negotiable instruments by the borrowing railroads, with collateral adequate to secure the Government from any loss?

A. That is true; yes sir; and at an interest charge of six per cent per annum.

Q. There is now no Federal statute requiring interstate buses or trucks to obtain from the Federal Government a certificate of any character before going into the transportation business, is there?

A. That is correct. There is no interstate regulation or control of motor vehicle transportation of any kind.

Q. In other words, the provisions of the Interstate Commerce Act as to discrimination long and short haul clause, posting under Section 6, and the like, have no counterpart of any kind or character in relation to the railroads' competitors by motor vehicle.

A. That is correct. The Interstate Commerce Act does not apply to motor vehicles and there is no Act which does.

Mr. Hall: That is all.

Recross-examination.

By Mr. Beeler:

[fol. 272] Q. There have been and are pending several proposed acts in the Congress of the United States looking toward regulation of interstate motor vehicles, aren't there, Doctor?

A. I think that bills of one nature or another have been pending before Congress for at least eight years, General, and so far none of them have done more than pass one House. One bill did pass one House and that is as far as it got. No other bill has gone that far.

Q. Now, has not the Interstate Commerce Commission recently made a recommendation for legislation of that character?

A. Yes, sir. They did so in this report in Docket 23400, which has been mentioned, and they have done so several times in their annual reports to Congress.

Mr. Beeler: That is all.

Mr. Hall: That is all.

Julius H. Parmelee, by Paul J. Robertson.

[fol. 273] Whereupon Dr. C. S. Duncan resumed the stand for cross-examination.

By Mr. Beeler:

Q. Doctor, with reference to the duty of the State as the sovereign, it owes, just by virtue of being a State and being a government, certain duties to the public, does it not, such as the duty to maintain proper sanitation and safeguard the health of the people?

A. It is my understanding the duty of the State is involved in all questions of public health and welfare.

Q. And that same thing would obtain as regards school facilities and educational advantages for the citizenship, would it not?

A. Yes sir, under our government that is true.

Q. And likewise it owes the duty to the citizenship to afford proper police protection, to see that the citizens are protected and, to that end, to maintain proper courts throughout the State?

A. Yes sir, I agree with that.

[fol. 274] Q. And, in order for the citizenship to have that access to which they are entitled, the State also owes the duty to maintain a proper system of highways. That is correct, is it not?

A. If I understand you correctly to mean that as a matter of safe and convenient travel by individuals, yes, I think that is true.

Q. Now, I take it, Doctor, your testimony in chief in this case was not intended to be based on conditions in Tennessee alone, but on conditions that prevail throughout the United States, with Tennessee conditions reflected in them as a whole. That is correct, is it not?

A. Yes sir.

Q. Are you familiar with the Tennessee statute of 1921, Doctor, that provides a method for grade crossing elimination?

A. I do not know it; no sir; I am not familiar with it.

Q. And you do not know to what extent, then, the citizenship generally is required to contribute to the cost of that elimination?

A. In the State of Tennessee?

Q. That is correct.

[fol. 275] A. I am not familiar with it.

Q. Does any benefit accrue to the railroads, especially to the train crews and to the passengers on passenger trains, from grade crossing elimination?

A. The question is somewhat difficult to answer. I would undertake to do it in this way; that with conditions as they are on densely utilized highways, with private vehicles moving over them and many of such vehicles, it is undoubtedly true that there is an advantage to the railroad in its operations, including the groups you have indicated, from separations of grades.

Q. Now, the railroads occupy the soil of the State by permit and by the grace of the State as a sovereign. That is correct, is it not?

A. I assume you refer to the eminent domain policy?

Q. That among other things.

A. Among other things—I think that is true, yes sir.

Q. And they occupy the soil of the State subject to such reasonable conditions and restrictions as the State, as sovereign, sees fit to impose. That is likewise true, is it not?

A. I should say so. I am not sure whether this distinguishes the railroads from private citizens or any other business or not, because there is, in my judgment, a dis-

[fol. 276] tinction due to the fact that they are engaged in public service.

Q. With reference to the use of the highways of any given State, the private operator of a motor vehicle can not be excluded from the use of those highways, can he?

A. It is my understanding that he can unless he meets the conditions set forth under the police power and otherwise.

Q. Well, so long as he complies with the reasonable police regulations of the State with regard to speed and the mechanical safety of his motor vehicle, and so long as he is

not using that highway as a place to make money in the pursuit of commercial enterprises, he has got a right as a citizen of the State, to use that highway, hasn't he?

A. Complying with the conditions set forth, yes, I assume what you say would include license plate, etc.

Q. Oh, yes.

A. And it would include the size, weight and length of the motor vehicle.

Q. Doctor, do you know how many ton miles of freight of road building material was moved by rail in any given year in the last five?

A. I do not have any such figure in my mind.

[fol. 277] Q. Now, in your testimony in chief you have testified to certain additional costs that are necessary to be incurred by the State in the construction of highways to take care of heavy motor vehicles. At what weight would that additional cost begin to pile up so as to be of any considerable or appreciable extent?

A. My information is that that would first depend upon the character of the motor vehicle, particularly with respect to the kind of tires used. I am familiar with the recent tests that have been made by the Bureau of Public Roads. In those cases, as the figures have been put out, it is indicated that the use of the highway by a motor truck with dual pneumatic tires on the rear wheels, of two tons capacity, assuming that the motor vehicle itself weighs the same amount as the load, would not require more expensive roadway than the general dense automobile passenger traffic. I think that does not take into consideration, however, the possibility as to greater width of the highway and the shoulders on it, since the truck bodies, admittedly going the full limit of seven and one-half or eight feet, or slightly over, as some States permit, are wider than the private automobile, and therefore the passing of two such vehicles, or one such vehicle and a private automobile, calls for a somewhat greater width for safety purposes than would otherwise be required.

[fol. 278] Q. Now, suppose you had a ten ton gross load that was the maximum permitted by State law and your operation was by trucks with dual pneumatic tires, would that entail any great additional expenditure for road construction over what would be necessary to carry the ordinary pleasure cars over a densely traveled highway?

A. That is a twenty thousand pound gross weight, a five ton truck, as I understand it. The most recent studies that have been put out, by the highway officials in Pennsylvania and the Bureau of Public Roads, indicate these figures, General: that for a concrete highway the private passenger automobile and the truck up to about two ton capacity would require an average over-all depth of concrete of 5½ inches. The five ton truck, which I assume would just about fulfil the conditions the question has set forth, would require an average over-all thickness of 7⅞ inches, making a difference in the slab itself of 2⅜ inches. Those are the latest figures that I have seen with respect to that matter.

Q. Well now, if that load is distributed or being carried on a semi-trailer and the front end of that trailer mounted on a truck, so as to give three sets of wheels in that train, why, that would further eliminate the wear and tear on the highway, would it not?

A. If properly arranged, that is true, wear and tear on the highway being registered by the area of impact of the [fol. 279] wheel, and if those tires are so arranged that the points of contact with the road are from 36 to 40 inches apart. I understand it will then distribute the weight so as to lessen the wear and tear on the highway.

Q. Now, Doctor with reference to some question that was asked you on your examination in chief, some reference was made to possible danger at highway grade crossing at night time. You did not mean to say that the danger was increased materially at night time, did you, taking into consideration the fact that the automobiles and trucks are equipped with proper lights and that the engines are too? Can not that danger be seen *the* recognized and appreciated as easily at night time, if not more easily than in day time, at most of these grade crossings; and especially is not that true if the crossing is blind in any respect?

A. I think that it seems reasonable, to say that, if there is proper lighting.

Q. Is not the worst time to drive, from a motorist's standpoint between daylight and dark, in twilight, when the lights are not giving full protection and the daylight is not fully gone?

A. I cannot answer yes or no, because the traffic is denser at that time of day while the speed may be greater at night.

Q. Doctor, don't you think that railroads, as a matter of economics, should be required to contribute something to the cost of grade crossing elimination?

[fol. 280] A. My idea with respect to that is that the cost should be allocated on the basis of benefits received. That is the general principle, and therefore every individual case would have to be studied as to the relative benefits and the allocation of the cost to the various elements. No general figure can be arrived at, because one crossing may be different from another crossing. But it is possible by a study of the situation surrounding an individual crossing, I think, to allocate the cost on the basis of benefits derived. That is my idea of a fair way to go at it.

Q. And that is that no hard and fast rule could properly as a matter of economics be announced to govern grade crossing elimination generally, but each proposed separation should stand by itself and be determined as benefits accrue either to the railroad or to the traveling public on the highways?

A. That is my idea of the principle involved.

Q. In answer to a question by Mr. Hall in your examination in chief, you stated that in your opinion there has been a radical change in the fundamental conditions that requires a shift in the burden of grade crossing elimination and protection from railroads as to the users of the highway. When, in your opinion, did that change take place?

[fol. 281] A. I think that the change took place progressively from the beginning of the present century.

Q. At about what time do you think that change had been completed or consummated, or do you think the change is still taking place?

A. Well, I would say this, that the change is still taking place, due to the fact that there has been this progressive development on the highway, and it has involved an increasing need for protection at the highway crossings.

Now, I would say from my own knowledge of the situation that in the early years, the first ten years, of the present century, the actual need for any change in grade crossing protection was very limited; but, beginning with 1910, the great market for the private automobile was opened up and increased rapidly from year to year and likewise increased the hazard at the grade crossing. Then, following the War, with the tremendous development both

in private automobiles, buses and trucks and the increase of speed, it again greatly increased. That is the way I see the development.

Q. Well now, as that progress takes place along the lines you have indicated, the hazard at the grade crossing likewise increases in direct proportion, does it not?

[fol. 282] A. It may be geometrically. I would say it does increase. I do not know the proportion.

Q. The point I am making is that it increases with the increased use of the grade crossings by automobiles and motor vehicle operators?

A. That is right; yes.

Mr. Beeler: I think that it all.

Re-direct examination.

By Mr. Hall:

Q. Mr. Duncan, in the joint tests and conclusions of the Bureau of Public Roads of the United States with the State of Pennsylvania, to which you referred, they found that a motor vehicle, with its weight distributed in the same way, with the same number of wheels per axle and so on, required an additional slab thickness, as you have indicated, depending solely on gross weight. Is not that correct?

A. That is my understanding of it; yes sir.

Q. Now, that particular feature took into consideration nothing as to added costs for sub-grade, shoulders and other incidental features. Is that correct?

A. The study does not indicate that it took into consideration anything else than the concrete slab itself and the [fol. 283] thickness of the concrete slab.

Q. Have you an exact copy of the official report gotten out, showing that difference in the thickness of the slab to which you refer, which you could file as an exhibit to your testimony?

A. I have a complete set of eighteen photographic pictures issued by the Bureau of Public Roads. One of these carries the date to which you refer. I have but a single copy of it and I am not able to get another copy, but I would be glad to read the data into the record if you desire.

The data is in a tabulation as follows:

"The thickness of pavement would have to be, for each size of vehicle, as follows:

"Size of vehicle	At the edge	At the center	Average over all
"Passenger car	6	5	5½
½ ton truck	6	5	5½
¾ ton truck	6	5	5½
1 ton truck	6½	5¾	6⅛
1½ ton truck	6¾	6	6⅜
2 ton truck	7¼	6¾	7
3 ton truck	7¾	7¼	7½
4 ton truck	8	7½	7¾
5 ton truck	8¼	7½	7⅞"

[fol. 284] Q. Doctor, when you answered General Beeler's question about the duty of sovereignty to protect the health, safety and welfare of the public, you did not intend in any way to say by what method the financing of that paternalistic protection was to be handled, did you?

A. I did not understand that that was a part of the question.

Q. You have stated, in answer to a question by General Beeler, the sound economic rule in grade separation projects would be that the cost should be borne in proportion to the benefits received. If that be true, do you know any reason why, in an instance where a railroad track is crossed by a new highway and approximately twelve trains in twenty-four hours use that track and it is estimated that not less than five hundred automobiles will cross on the new project each twenty-four hours, the railroad should have to pay directly, in addition to general taxes, one half the cost and the motor vehicle users should not have to pay directly a dollar? Is there any economic principle that would justify that discrimination, in your opinion?

A. As I understand the situation, as you have set it up, it would seem to lead inevitably to the conclusion that there would be no economic justification on the principles, I have stated, of the benefits received, for the railroads to contribute fifty per cent of the cost.

[fol. 285] Q. General Beeler asked you if it was not the duty of the railroad occupying the right of way by the grace of the sovereignty to conform to reasonable conditions imposed by sovereignty. In your opinion does a railroad train stand in any different category from a truck train in that regard?

A. I endeavored to indicate, I think, in my answer, that the principle applied generally to railroads and certainly it should be applied to a truck engaged in the same field of service as the railroads.

Q. And yet, so far as you know, have you ever heard of these big corporations that operate trucks in interstate traffic contributing of their own violation or being required by law to contribute to any of the forms of grade crossing protection, including flashing lights, signs and even elimination of the crossing itself?

A. I have heard of no such instance.

Q. Can you reconcile on any economic theory the placing of the exclusive burden on one of the users of such a situation and letting the others escape all such direct obligation?

A. I can not.

Mr. Hall: That is all.

Mr. Beeler: That is all.

(Whereupon, at 12:30 o'clock P. M. Friday June 10, A. D. 1932, the examination was concluded and the hearing adjourned.)

C. S. Duncan, by Paul J. Robertson.

[fol. 286] District of Columbia, *aa:*

I, Paul J. Robertson, a Notary Public in and for the District of Columbia, do hereby certify that the foregoing depositions of Dr. Julius H. Parmelee and Dr. C. S. Duncan were taken before me, on behalf of complainant, upon oral examination, in room 1024, Transportation Building, Washington District of Columbia, on the 18th day of March, A. D., 1932, and, pursuant to adjournment on the 10th day of June A. D. 1932, commencing at 10:30 A. M. in pursuance of the agreements and stipulations set forth on the first page hereof; that previous to the commencement of his examination each of said witnesses was by me duly sworn to tell the truth, the whole truth and nothing but the truth; that thereupon said witnesses were carefully examined and their testimony was reduced to writing as hereinabove appears.

I certify that, being a stenographer, I took the foregoing depositions in the exact language of the witnesses, and reduced it to typewriting; and I also certify that I am not in

any capacity in the regular employ of the party in whose behalf these depositions are taken, nor in the regular employ of his attorney; and I certify that I am not interested in the case, nor of kin or counsel to either of the parties; and that pursuant to said agreements I sealed up said depositions, and delivered them to Fitzgerald Hall, Esq.

Witness my hand and seal of office this 20th day of June [fol. 287] A. M. 1932.

Paul J. Robertson, Notary Public in and for the District of Columbia. My commission expires May 16, 1937. (Seal.)

Fee $22.00 paid by complainant.

[fol. 288] H. H. CARTWRIGHT, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Please state your full name, occupation and your railroad and other experience?

A. My name is H. H. Cartwright. I am real Estate agent for the Nashville, Chattanooga & St. Louis Railway with office in Nashville. I have been with this Company for seventeen years as Assistant Engineer and Real Estate Agent. By training, I am a civil engineer. I have had experience in that line of work since 1905 with the L. & N. R. R., U. S. Government and N. C. & St. L. Railway. My present duties with this Company involve all matters pertaining to the real estate and tax departments.

Q. Does Exhibit No. 3 correctly set out all the correspondence between the N. C. & St. L. Railway and Commissioner Baker and his subordinates with reference to this proposed underpass at Lexington?

A. I have examined the files and am sure that Exhibit No. 3 correctly sets out all of the correspondence.

Q. Is Exhibit No. 4 an exact copy of the contract entered into between Commissioner Baker and the N. C. & St. L.?

A. It is.

[fol. 289] Q. Have the constituted authorities either of Henderson County or the town of Lexington made any re-

quest on the N. C. & St. L. either to separate the grade crossing now known as the Clifton Street Crossing in Lexington or to re-route or assist in re-routing highway No. 20 which passes through Lexington or construct or assist in constructing the proposed underpass?

A. Neither the city authorities of Lexington nor of Henderson County have ever suggested that Clifton Street crossing is dangerous and should be eliminated. We have not been called upon by either to assist in the re-routing of Highway No. 20.

Q. Just how much of the taxes paid by the N. C. & St. L. in the State of Tennessee for the five years ending December 31, 1931 was levied specifically for highway and road purposes?

A. $505,675 according to an estimate I have made.

Q. Did you assist in making the surveys of Exhibit No. 6 and is it accurate as to all it purports to show?

A. Yes. I assisted in making the surveys for the map of Lexington file in this case by the Railway as Exhibit No. 6. It is an accurate map as to all it purports to show.

Q. With this Exhibit No. 6 as a basic comment in detail on the physical situation of the Clifton Street crossing, the proposed re-routing of highway No. 20 and the general sit-
[fol. 290] uation at that place.

A. The new highway, as it enters Lexington from the east, is shown by yellow lines on the map. The underpass crossing is shown at the red location. At this point, our main line is on a high hill or embankment. The new road will pass underneath our track near the bulk oil plants and then proceed through the town along Church Street. This new highway, as it enters Lexington, passes through vacant, hilly land. There are no dwelling houses facing the highway, therefore, no local people to be benefitted by its construction.

Highway No. 20, as will be seen from the map, now follows the route of the old Perryville Pike to Clifton Street and then follows Clifton Street, crossing our main line at grade, to Main Street and then to the courthouse. The present route passes numerous dwelling houses, stores, etc., and is intensively used by the local citizens. The old road is a surfaced road, in good condition for all their travel at a reasonably rapid speed.

The new highway route is justified from a standpoint of modern engineering practice where the local community is not involved but the major question is rapid transit for through tourists and vehicles engaged in interstate com- [fol. 291] merce. The new route compares to the old route with respect to its economic utility as does a surface trolley line in a city compare to an elevated trolley line. The first serves the local people and the other serves through passengers where no local stops are contemplated.

Q. Just how much with this re-routing of highway No. 20 shorten the distance for those using the same?

A. From the city limits to the courthouse along the new line is 0.63 miles while from the city limits to the court house along the old route is 0.84 miles, which means a shortening of the route of only ¼ of a mile, this shortening being a benefit to through traffic only since local traffic almost entirely will of necessity continue to follow the old route.

Q. Will this change in the routing of Highway No. 20 under the Railway's tracks as proposed and as shown on said Exhibit No. 6 reduce or effect to any material extent the traffic over Clifton Street crossing, which is now highway No. 20.

A. Clifton Street crossing is an important street in the town of Lexington. All persons entering the town from the south and southwest and a large number from the southeast will continue to use Clifton Street. Therefore, the new highway will not relieve the present grade crossing [fol. 292] of any appreciable amount of traffic. All people in the county southwest of Lexington using highways Nos. 15 and 24 from Jacks Creek and Henderson as well as those using the Sardis Road, will continue to use Clifton Street coming to town. Likewise, a great number of people, who live southwest, will continue to use the old highway No. 20 and the Clifton Street crossing.

The new highway, on account of its modern gradiants, light curvatures, short route, etc. will draw much through travel but will not relieve the present grade crossing of the local and surrounding people who now use it.

Q. Were you present and did you assist in the taking of the eleven photographs jointly making up Exhibit No 7?

A. I was present and assisted in taking all of the photographs filed as Exhibit No. 7.

Q. Are the statements as shown thereon and the comments with reference thereto correct?

A. All of the statements and comments shown on the same are correct.

Q. Take these exhibits and comment on the territory to be traversed by this re-routing of highway No. 20 under the Railway's tracks.

[fol. 293] A. The first photograph shows the present south end of Church Street at the railroad embankment. Church Street will constitute a part of the new highway. To the left are the oil tanks, to the right is a machine shop. These concerns depend on local business and are adequately served by city streets. Beyond the railroad may be seen the vacant property through which the new highway is to be located.

On the second photograph will be seen the railroad embankment where the new highway will pierce it. No crossing at this place ever existed and none was ever justified until the present system of through highways found this location.

Picture No. 3 shows the vacant territory southwest of our railroad to be crossed by the new highway.

Picture 4 shows the same. Not a single person would be benefitted.

Picture No. 6 shows Church Street with the Court House in the distance. This street is ample to take care of all local business but will be converted into a new highway.

Picture 7 is a view of our railroad with the camera over the proposed underpass location looking toward Nashville. No crossing is needed at this point except for air line vehicles using the new highway, who will not be interested [fol. 294] in the local situation.

No. 8 shows the railroad to the northwest of the proposed underpass. It shows the grade crossing at Clifton Street in the distance.

No. 11 shows the present grade crossing on Clifton Street. All persons using Highway No. 20 now travel this street. The picture shows the smooth crossing of our track and the modern device for protecting the crossing.

Q. To what extent will it serve the town of Lexington, facilitate and make more safe local traffic, giving details.

A. The actual count of the movement over the Clifton Street grade crossing made in September, 1931, shows that

each day 813 passenger automoblies, eight school busses, 185 trucks and 41 horse drawn vehicles pass over this crossing. These vehicles are engaged in local travel exclusively and with slight exception, will continue to use the grade crossing, even after the new highway is completed for the reason that the highway being built enters the town where no people live and as to local traffic, the new highway would be a circuitous route in and out of town.

Q. Give as shown by the 1930 federal census the population of the town of Lexington and the counties of Henderson, Decatur and Chester.

[fol. 295] A. Population of Lexington is 1823, population of Henderson County is 17,655; of Decatur County, 10,106; of Chester County 10,608. The population of Chester is 34 per square mile; of Decatur is 35 per square mile; of Henderson is 33 per square mile.

Q. Give the number of automobiles registered for 1930 and also for 1931, if available, in the entire counties of Henderson, Decatur and Chester.

A. The automobile registration for the year 1930 is as follows:

Henderson	County	1576
Decatur	"	954
Chester	"	1477
		4007

Automobiles in these three rural counties average less than 4 per square mile, which is probably as low as in any section of the State and this is an indication that a modern through highway is not justified to take care of the local people but is only a tendency of the Government to subsidize the new modes of transportation.

For the year 1931 Henderson County had only 703 automobiles registered and on February 17, 1932, only 480 had registered. For the year 1931, the automobiles in Henderson County registered were less than 2 per square miles [fol. 296] of territory. In 1931, total registration for the town of Lexington was only 137 while for 1932, it was only 110.

Q. What is the area of these counties, giving each separately and the population per square mile.

A. The area of Chester County is 331 square miles, of Decatur County is 288 square miles and of Henderson County 536 square miles. As I have stated, the population per square mile will average only 34.

Q. In traveling over highway No. 20 from Linden to Lexington, describe such towns and villages, if any, giving their size, through which one passes, and describe the general territory, number of residences, farm houses, and so on.

A. After leaving Linden, Highway No. 20 passes through no towns in Perry County. The Tennessee River is the boundary between Perry and Decatur Counties. Across the river, the Town of Perryville may be seen but the highway does not pass through it. Perryville is not the county seat. It is a village of about 300 population, being the terminus of the N. C. & St. L. Railway's Perryvile Branch of the Tennessee River. There is a hotel, post office and several stores.

[fol. 297] From Perryville to Lexington the new highway follows close to the old county highway and NC&STL Railway. It passes next through the town of Parsons, which has a population of 915. This town has a number of stores, a hotel, bank, depot, service stations, etc. The next village, which No. 20 passes is Darden in Henderson County, a small village of a population of approximately 100, has a depot and several dwellings. We then pass through the village of Chesterfield, which compares in size to Darden.

The entire section between Lexington and Linden, a distance of 36 miles, except for the three or four villages named, is an agricultural section but poorly adapted to agriculture on account of the quality of the land. All timber of any value has been removed and the land is not fertile. The improvements on the farm are meager, hence the small population per square mile. There is much idle or fallow land.

It is quite evident that the state and federal government in choosing its location for a new highway on route No. 20 contemplated benefiting the local communities very little but hit this country because it laid in the path of a bee-line highway.

Q. Give the same data for the town of Linden.

A. The town of Linden in Perry County is the county seat. It was incorporated in the year 1923. The popula- [fol. 298] tion is 539. There is a courthouse, bank, hotel, several stores, gas stations and a number of dwellings. About 50% of Perry County is classified as farm land. However, generally speaking, the county is made up of post oak ridges. The land is not fertile and this accounts for the sparsely settled country. There is no manufacturing of any consequence in Linden, Perryville, Parsons, Darden or Chesterfield. Timber has been sawed out. There is no mineral in commercial quantities, therefore it is generally classified as poor country.

Q. Describe this general territory served by Highway No. 20 between Linden and Lexington, giving any factories or other traffic producers along the way, commenting in detail on the traffic productivity on this stretch of territory.

A. As stated before, the territory between Lexington and Linden is generally called poor country. People all depend upon agriculture since there are no manufacturies.

Q. Describe the character of road built and some details as to cuts and fills and to what extent the same may be necessary for the handling of local travel either originating from or destined to this territory.

A. New highway route No. 20 is a very expensive road with light grades, easy curves, modern pavements, built [fol. 299] for through, fast traffic. The country traversed is ridge land, the road is generally built across drainage area, rather than parallel with it, the result being one expensive cut followed by an expensive embankment almost continuous throughout the entire route. A much less expensive secondary road will serve every need of the local communities. A highway of this character is no more justified for local business than would be a railroad similar to the Pennsylvania main line to take the place of our Perryville Branch. In other words, the comparison I am drawing is that the Pennsylvania Railroad would only be justified between Perryville and Lexington if it were a link in the main line of railroad connecting large termini.

Q. Describe Clifton Street crossing which is now Route 20 and show to what effect it serves both the town of Lexington proper and roads leading to and from Lexington.

A. Clifton Street, as will be seen from Exhibit No. 6 is an extension of Main Street and is the main street of the

town. As stated before, it connects all of the southwest section of the town with the business section and the schools. It is also the entrance to the town for all persons using the Jacks Creek road, Henderson road and Sardis Road. Our grade crossing at this point is as perfect as it is humanly possible to make it. The street and the rails [fol. 300] are at the same elevation and the view is good in all directions, making it an ideal grade crossing.

Q. To what extent would the present use of this Clifton Street crossing be changed by the construction of the proposed underpass, giving the reasons for your answer?

A. The present use of Clifton Street crossing will not be noticeably changed by the construction of the new underpass for the reason that the local people will continue to use the grade crossing while only, with a few exceptions, the new highway will be used by bee-line traffic or persons who have no business whatever to transact in Lexington.

Q. To what extent do taxes of all kinds paid by the owners of motor vehicles in Tennessee go to defray the general cost of government, and how much goes to the special purpose of building roads for themselves to use?

A. Such taxes as are levied ad valorem on motor vehicles go to pay the general cost of the government but this is negligible for the reason that vehicles, except in rate instances, are not assessed ad valorem. The license tax paid for registration of motor vehicles go to the highway funds, likewise such privilege taxes as are collected from automobiles for hire or rent, go to the highway fund and except for a small amount, all of the present gasoline levy goes to the highway fund. In other words, practically all of the taxes paid on motor vehicles goes to the specific purpose of building roads for their own use.

Q. What sort of automobile do you drive?

[fol. 301] A. I drive a 1928 model Pontiac.

Q. Within what distance can you stop that car going at the respective rate of 40 miles, 30 miles, 20 miles and 5 miles per hour?

A. Traveling at a speed of 40 miles per hour, I can stop my car in 80 feet; at 30 miles per hour in 45 feet; in 20 miles per hour in 20 feet and 5 miles per hour in 10 feet.

Q. How does this compare with the ability to stop Fords, Chevrolets and other cars?

A. The distance given, I think will go for Fords and Chevrolets that are in good mechanical condition.

Q. How far in advance do your lights show at night so as to enable you to see a railroad track?

A. The headlights on my car enable me to see railroad tracks ahead, a distance of 300 or 400 feet.

Q. Is this fairly comparable with automobiles of various types?

A. This compares fairly well with automobiles of various types when their lights are in proper order.

Q. Comment on the manner of construction of a typical grade crossing on the public highways over the N. C. & St. L.

A. Wherever the N. C. & St. L. had a grade crossing of importance, it uses the all-rail type, that is, between the [fol. 302] running rails there are laid and spiked down, other rails so as to form a continuous iron surface between the rails and also on the outside to the end of the crossties. If the crossing rails are not of the same weight and height as the track rails, then they are shimmed up so as to afford a plain surface. The space between the heads of the railroad iron is filled in generally with asphalt or amesite in order to make the crossing smoother. The approach to the track or either side is smoothed off so that the result is a smooth crossing, hardly noticeable by a motor vehicle passing over.

Q. Eliminating the question of train movements, are these sections in the road any more dangerous than any other portions of the public highway?

A. A grade crossing built and maintained as N. C. & St. L. standard is no more dangerous from a standpoint of motor vehicle than is any other section of the road.

Q. Who pays for the construction and maintenance of these crossings and the approaches thereto?

A. The railway pays for the construction and maintenance of these grade crossings, including the approaches thereto.

Q. Do automobile owners and users in Tennessee pay or are they asked to pay anything directly toward the cost of building and maintaining grade crossings and approaches in Tennessee or of eliminating them or of protecting them by lights, wigwags, watchmen or otherwise?

A. The automobile owners, who operate in Tennessee, [fol. 303] strange to say are not required to contribute anything to the construction and maintenance of grade crossings or their approaches, or to the cost of eliminating grade

crossings or protecting crossings by lights, wigwags or watchmen. The railway is required to assume the entire burden even though — is in favor of the motor vehicle.

Q. Approximately what percentage of traffic on public highway in Tennessee today, that is, the state and federal aid, roads, *in* motor vehicle?

A. More than ninety per cent. Horse drawn vehicles are almost a thing of the past. Very seldom is one seen on the highways.

Q. Take the various grade separation project in Tennessee to which the N. C. & St. L. has contributed half the cost under Chapter 132 of the 1921 Public Acts of Tennessee, as amended, and give in general the number of automobiles going over these crossings as compared with the number of train movements.

A. The information set out below was obtained as follows: Vehicular movements secured from the State Highway Department from a traffic count made during the last half of August, 1930. The Count was made for 12 hours, 6 A. M. to 6 P. M. Train movements for approximately the same date secured from Superintendents of Transportation of the N. C. & St. L. Railway but cover a 24 hour day.

[fol. 304]

		Vehicle	Trains
Nashville Div.	#1, Viaduct at Belle Meade	2,653	19
" "	#1, Underpass east of Burns	1,133	19
" "	#1, Underpass at Dickson	1,133	24
" "	#1, Overhead Br. at Dickson	985	19
" "	#1, Underpass at Camden	595	19
" "	#22, " " Gleason	370	10
" "	#22, " east of Dresden	408	10
" "	#22, " west of "	648	10
Centre Br.	#100, " south of Centreville	128	4
Lebanon Br.	#1, " Easton Station	1,951	4
Chatt. Division	#1, " at LaVergne	1,951	27
" "	#1, " west of Murfreesboro	2,057	28
" "	#10, Viaduct S. of Murfreesboro	533	28
McMinn Br.	#2, Overhead Bridge—Manchester	560	5
" "	#1, Underpass at McMinnville	603	5
" "	#1, Underpass at Sparta	603	7

Q. Describe the various devices and methods now adopted by railroads in general and the N., C. & St. L. Railway in particular for protecting grade crossings, giving the details as to how the wigwags at the Clifton Street crossing in Lexington now operates.

A. First, we have the human watchman, with whom we are all familiar. He flags the crossing when a train approaches and prevents pedestrians or vehicles from getting on the track.

[fol. 305] Second, we have the crossing sign, which is standard for most crossings, white post with two cross-arms, usually marked "Lookout for trains."

Third, we have automatic flashing device which is an electrical apparatus so connected to the rails that when a train approaches, lights are flashed to warn those crossing the railroad.

Fourth, we have a wigwag, which is a suspended pendulum electrically connected to the rails, which moves as a warning sign. Usually there is a bell connected with it, which rings as a warning, and there are lights attached to the pendulum.

Fifth, we have crossing gates, which either are operated electrically or by air or by the human watchman. These gates are lowered at the approach of a train.

At Clifton Street, the crossing is protected by a wigwag, which is a device designed for furnishing both audible and visible warnings to pedestrians and vehicular traffic at a railroad grade crossing. It is of metal construction, consisting of iron case sufficiently large to house mechanism, relays and battery, and on top of this iron case an iron pole is mounted with a locomotive type bell and an arm is extended outwardly 6 feet to which is attached a banner extending downward 3½ feet. The total signal is 16 feet five and a half inches from top of foundation to top of pole and at a height of 13 feet a large sign is attached reading "Railroad Crossing". The signal is anchored on a con-[fol. 306] crete foundation and is placed besides the tracks at grade crossing where it can best be seen by approaching traffic. The device is electrically controlled and is operated by primary caustic soda battery, having two motors, one for operating mechanism and banner and a separate motor for operation of bell. A track circuit is installed in the track at sufficient distance from the crossing so that on approach of a train or engine, power is supplied through relay action which starts the bell ringing, lights a marine globe in the banner and at the same time banner begins to swing parallel to the tracks, conveying both audible and visible warning to all traffic. This wigwag signal is automatic in operation and is practically infallible.

Q. Give for the calendar years 1927 to 1931, both inclusive, the amount of general ad valorem taxes paid by the N., C. & St. L. Railway to the State of Tennessee itself and to its counties, municipalities and taxing districts.

[fol. 307] Q. How does this compare with the general ad valorem taxes paid by the owners and users of motor vehicles?

A. The N., C. & St. L. Railway alone paid 220 times as much ad valorem taxes as all the operators of motor vehicles in common carrier service.

Q. Did you prepare Exhibits 10 and 11, and if so, do they correctly represent what they purport to show?

A. Yes. They correctly show the taxes assessed and paid by all common carriers by motor vehicles in 44 counties and 41 towns. For the year 1919 only, $2,663.97 in taxes was paid by them on the assessed value of their property.

Q. Comment in some detail upon those two exhibits and just what they show.

A. The railroad and Public Utilities Commission, in its biennial reports, which are public records, printed and distributed, gives a list of all the certificated common carriers by truck and bus. With these as a guide I, personally, with the assistance of three of my associates, examined the records in the trustee's and tax assessor's offices in 44 counties in the State of Tennessee. We visited 14 West Tennessee counties, 18 middle Tennessee counties and 12 East Tennessee counties. A map of Tennessee, marked Exhibit No. 11 in this case, shows shaded in yellow the 44 counties visited. These 44 counties represent 64% of the [fol. 308] total population of the State. The result of our findings, as tabulated on Exhibit No. 10, is as follows:

Year	Valuation for taxation	Taxes collected
1928	$178,695	$1,371.97
1929	170,670	1,774.01
1930	183,920	1,185.05

We also ran the tax records in 41 municipalities and found ad valorem taxes collected as follows:

Year	Taxes collected
1928	$1,047.27
1929	830.44
1930	1,330.65

From an examination of Exhibit No. 10 it is observed that the majority of the counties collected nothing, and that only a few collected a nominal amount. Take for instance Davidson County. There are 134 certificated carriers oper-

ating on the highways into Nashville. For the year 1928, only one was assessed and two for subsequent years only four were assessed. Take Franklin County—for the year 1920, the N., C. & St. L. Railway paid to the county trustee the sum of $35,894.44 in ad valorem taxes. Our competitors on the highway all escaped such taxation with the exception of one local party and he paid the small amount of $26.99. Of the $35,894.44 paid by us, $19,531.02 was used for school [fol. 309] purposes. Two county officials were in my office yesterday from Franklin County to see if they could arrange with the Railway to make a voluntary contribution to keep one of the high schools going nine months. Not only have they failed to ask our competitors for voluntary contributions, but have not asked them to pay what the law says they should pay.

Again, out of the sum of $35,894.44 paid Franklin County for 1930 by the N. C. & St. L. Railway, $8,021.48 was levied for road purposes for our competitors on the highways to use, yet, the ones that get the benefit were not required to pay.

From the investigation I have made it appears that all the assets of the operators of common carrier vehicles are valued for taxation in Tennessee at only $285,000. Certainly 95% is escaping taxation. This is wilful discrimination.

Q. Give for the five years 1927-1931 inclusive the excise or privilege taxes, as distinguished from the ad valorem figures previously given, paid by the N. C. & St. L. directly to the State of Tennessee.

A. Excise taxes paid to State of Tennessee by N. C. & St. L. Railway by years is as follows:

1927	$11,283.83
1928	10,848.79
1929	12,631.43
1930	15,898.98
1931	2,706.11

[fol. 310] Q. For the same five years, what income taxes have the N. C. & St. L. paid to the federal government?

1927	$364,061.76
1928	350,267.66
1929	404,472.30
1930	83,418.96
1931	.....

Q. Give such information as you have as to taxes of this and other kinds paid by common carriers by motor vehicles in Tennessee, giving the sources of your information.

A. I have no information concerning federal income taxes paid by the companies and individuals operating vehicles for hire.

As to ad valorem taxes, I have already commented and shown that what is collected is practically negligible. It would amount to a large sum if existing laws were enforced. Motor vehicles for hire pay a registration fee annually when license tags are purchased under provisions of Chap. 149, Acts of 1919, as amended by Chap. 108, Acts of 1923. For a 20 passenger bus, this amounts to $30.00 and is based on horse power rating. Payable at the time license tags are purchased, is a seat tax on motor coaches or busses for hire. This is $2.00 per seat levied by Chap. 108, Acts of 1923.

A Privilege tax is levied on auto busses and auto trucks under the provisions of the 1927 Revenue Bill, for instance, a passenger bus with 18 seats or less operating through more than one county pays a privilege tax to the State of [fol. 311] $500.00. Auto trucks pay generally under the section of the 1927 Revenue Bill, which provides for collection by the State alon*g*; a two ton truck pays $15.00 per annum; each truck of more than four tons pays $75.00 per annum.

Under authority of Chapter 58 of the Acts of 1929, there is an inspection fee for busses, the minimum being $10.00 per annum and the maximum $2.50 per annum per passenger seat. The minimum fee for trucks is $10.00 per annum and the maximum $10.00 per annum per ton of carrying capacity. The gasoline tax payable by commercial vehicles is the same as paid by other automobiles. It was five cents per gallon under authority of Chap. 11 of the Acts of 1929, but has been increased now to seven cents per gallon.

As to all taxes which common carrier motor vehicles pay, I here make reference to page 124 of the 18th biennial report of the Tennessee Railroad and Public Utilities Commission to which all common carriers by motor vehicles report. There is a statement to the effect that all common carrier busses in Tennessee paid in taxes $300,000. There were in operation in 1930, 425 coaches owned by 76 com-

panies, the average tax per coach being $705. The said Commissioner furnishes us no figures for automobile trucks but on account of the low privilege tax, we know that trucks contribute much less in taxes than busses.

[fol. 312] The N. C. & St. L. Railway operates through 33 counties. In December 1930, we sent representatives to each county for the purpose of compiling and making a comparison of taxes paid by railroads and by motor vehicles for hire. Exclusive of the gasoline tax paid, which was not of record, the motor vehicles contributed for state and county purposes from all sources of taxation, $80,559 for the year 1929. Railroads in the same counties contributed $1,282,365. After making ample allowance for the gasoline taxes, it is seen that the railroads paid in taxes in those 33 counties, approximately $10.00 to every $1.00 paid by their competitors on the highway.

Q. For the same five years, how much did the N. C. & St. L. pay in property or ad valorem taxes to the town of Lexington? To the County of Henderson?

A.

To the town of Lexington		To the *town* of Henderson
$1,009.33	1927	$17,365.63
1,146.97	1928	16,845.03
1,335.75	1929	18,999.84
1,202.18	1930	19,824.25
832.30	1931	15,453.09

In addition to the above, the N. C. & St. L. Railway paid for the years 1927-1930, Inc., a state property tax on property in Lexington and in Henderson County, but the tax was paid direct to the State.

[fol. 313] Q. For the same years, what did common carriers by motor vehicle pay Lexington and Henderson Counties?

A. Common carriers by motor vehicle paid no taxes either to Henderson County or the Town of Lexington. I was told by the county court clerk that none operate through Henderson County but many will after Highways Nos. 20 and 100 are completed.

Q. Are any of the taxes paid by the N. C. & St. L. Railway used for the construction or maintenance of facilities furnished by The N. C. & St. L. Railway?

A. Not a dollar. When the N. C. & St. L. Railway paid its taxes, the money goes into the public treasury and is

spent for schools, roads, salaries of public officials, etc. None of it is ever spent by the public on the Railway's property. Whenever there is a public improvement made touching the railroad property such as sewers, curbs, gutters, the Railway is required to pay as a special assessment and usually has to pay whether or not there is the slightest benefit. As a general rule, the Railway is not benefited by special assessment but regardless is required to pay.

When a railroad pays taxes, it only gets government protection, however, when a carrier for hire by motor vehicle pays its taxes, it not only gets governmental protection but it gets a highway built and maintained at the public expense without further charges for a private business enterprise.

[fol. 314] Q. Is the N. C. & St. L. a land grant road?

A. This corporation nor did any of its predecessor corporations receive any land grant aid except the Tennessee & Coosa representing now a branch of the N. C. & St. L. Railway in Alabama, about 26 miles long. That form of encouragement was granted by the Government largely to help get the railroads across the unsettled country of the western states. Practically all of the N. C. & St. L. mileage is in Tennessee, Kentucky and Georgia and this territory was part of the original 13 states. The federal government owned none of this land and the result was there were no land grants. In Alabama on the 26 mile Tennessee & Coosa road extending north from Gadsden, the railroad did receive grants of land within the six mile primary zone.

The odd sections were granted to the road but upon settlement with the contractor who went broke and who did not finish the road, these lands have practically no value, were absorbed by him in the settlement and were conveyed to him. Later on, the N. C. & St. L. bought this unfinished road, paid full value for it and completed it. Nevertheless, the N. C. & St. L. is still paying the U. S. Government for the aid. It is thus seen that the Government did not give away the land for in adjustments for compensation through mail, we are still paying.

[fol. 315] To what extent, if any, has it been subsidized by public authority as distinguished from occasional individual gifts of rights of way?

A. A careful search of all the records available made by this Company and made by engineers and auditors sent here by the Federal Government in connection with the

Federal Valuation Act, reveals that the only financial assistance received by the N. C. & St. L. Railway was from the Town of Huntsville, Ala., about 40 years ago when it was trying to further its interest by getting a north and south railroad through it. At that time, the N. C. & St. L. was making surveys for its Huntsville Branch and the City made six cash donations ranging from $100 to $2,000.00, total $3,505.25.

Q. Is Exhibit No. 12 an exact copy of the bill prepared by the N. C. & St. L. Railway and introduced in the last Tennessee General Assembly, regular session, as House Bill No. 257?

A. Yes, this is a copy of that bill. House Bill No. 257, to amend the existing laws regulating the division of expense of grade crossing separation projects on the state highways in Tennessee.

Q. What was done with that bill?

A. It was reported unfavorably by the House Committee to which it was referred and was defeated. It passed two readings and on page 1601 of the House Journal, appears the following entry:

[fol. 316] "Thursday, June 18th, 1931.

Your Committee on Judiciary beg leave to report that we have carefully considered and recommend for passage (here was set out number of bills) without recommendation (listed a number of bills) for rejection (listed a number of bills among which was House Bill 257)."

Q. Did the N. C. & St. L. and other railroads offer various bills in the Tennessee Legislature to relieve what they considered a discriminatory situation, giving the details and the results?

A. Yes, the railroads offered in all five bills.

First, House Bill No. 259—Senate Bill No. 231. Restrictions to size, weight and speed of common carrier vehicles.

Second, House Bill No. 261—Senate Bill No. 230. What The State Commission must consider, and what public hearings must be had before certificates of convenience and necessity are granted to common carrier vehicle operators.

Third, House Bill No. 262—Senate Bill No. 229. To require the Commission to assess all properties of motor transport companies at cash value for general taxation,

just as the law applies to other forms of property in Tennessee.

Fourth, House Bill No. 260—Senate Bill No. 233. To require motor vehicles for hire to pay privilege tax as compensation to the State of Tennessee as a fair proportion of the cost of constructing and maintaining the highways. [fol. 317] Fifth, House Bill No. 257 (was not introduced in the Senate). To provide that the total cost of eliminating a railroad grade crossing be divided between the State —the railroads involved and common carrier vehicles operating regularly over the crossing.

None of these bills were adopted by the Legislature. All were calculated to relieve the existing discrimination but the 1931 General Assembly, with full knowledge of the facts, deliberately perpetuated the existing discrimination against the railroads.

Q. Have you examined the brief filed by the Tennessee railroads in support of the bills and checked the accuracy of the figures therein contained?

A. Yes, I have examined the said brief. It is a 28-page printed document addressed to the General Assembly of Tennessee at Nashville. I personally furnished many of the figures and know them to be accurate. As to the balance, have checked them over and believe them to be accurate.

Q. Will you file an exact copy of this Brief as Exhibit No. 1 to your testimony?

A. I am filing a copy of this brief as Exhibit No. 1 to my testimony.

Q. Are you familiar with the physical situation at the present Clifton Street grade crossing in Lexington?

[fol. 318] A. Yes, I am familiar with the physical situation at the present Clifton Street grade crossing. Have been there several times recently and made detailed examination.

Q. As grade crossings go, is this in your opinion a dangerous grade crossing, giving in detail the reasons for your answer?

A. This is not a dangerous crossing. There are no conditions existing to make it dangerous. First, it is a right angle crossing, that is, the street is square with the railroad. That is safer than a skew crossing. Second, the street for several hundred yards each side of the railroad is level. This is safer than where there is a hill causing a

run-up or run-down to the tracks. Third, the street is plenty wide. This is safer than a narrow street where there might be a congestion of traffic. Fourth, the street is well surfaced with a bituminous material and the smooth surface is continuous over the tracks. This is safer than a rought street and rough crossing. Fifty, the railroad is on a very light curve and this is safer than a plan the curve is sharp. Sixth, there are no houses, no obstructions to view, immediately against the right of way lines of the railroad or street. The houses are dwellings and they do not obstruct the view. This is safer than where a house may hide the train from view or where a house may hide a vehicle from view of the trainmen. Seventh, the crossing [fol. 319] is protected with modern wigwag device for warning against use of the crossing when a train is approaching. This is safer than a human watchman for the reason that the mechanical device is always reliable, while the human is always subject to mistakes.

Q. Describe in general the country from Nashville to Lexington via Centreville and Linden.

A. Lexington is southwest of Nashville and distant 118 miles from it. Leaving Nashville on Highway No. 1, the distance is 8 miles to No. 100 junction. 46 miles of Highway No. 100 to Centreville, 28 miles from Centreville to Linden on Highway No. 100. From Linden to Lexington on Highway No. 20 is 36 miles making a total of 118 miles.

Leaving Nashville, Highway No. 1 passes through the best residential suburban section of the city. Highway No. 100 debauches from No. 1 near the Percy Warner Park and follows a new route along south side of the N. C. & St. L. and crosses the county pike at a point 6⅔ miles from the beginning of the new road. The distance of 6⅔ miles over the new highway is almost exactly the same distance as the old highway. Route No. 100 then enters Williamson [fol. 320] County, then Hickman County to reach Centreville. The location is almost a bee line and was selected irrespective of local dwellings or communities. Except for a very few modest dwelling houses, some of them in the nature of cabins, and except for one or two service stations, there is nothing locally served by the new highway No. 100 from the point where it enters Williamson County to Centreville. The land is largely barren, cut over acreage with only a small patch of poor land here and there in culti-

vation. From Centreville to Linden, a distance of 28 miles, the highway passes through Hickman and Perry Counties. The location is generally built across drainage. There are very few buildings and no industries of commercial enterprise on the highway. Near Centreville, the line passes some abandoned phosphate plants. The timber in this section has long since been worked out and except for the creek bottom lands, none of it is in cultivation. From Linden to the new bridge across the Tennessee River on Highway No. 20 in Perry County, not a single industry is passed and very few dwelling houses. The land is poor and small portions of it in cultivation. From Perryville to Lexington the line parallels the N. C. & St. L. and the old highway so that it makes contact with and is in the neighborhood of several small towns, including Parsons, Darden and Chesterfield. There are practically no industries at those places, just the ordinary number of stores, gasoline service stations, dwelling houses, etc.

[fol. 321] Q. To what extent is this territory cultivated, and how much of it is simple barren waste land?

A. 1930 census report touching agriculture in Tennessee gives statistics in 95 counties in Tennessee. I now quote figures as to Hickman, Perry, Decatur and Henderson Counties:

	Percentage of land acrea- in farms
Hickman County	53.5
Perry County	50.7
Decatur County	83.4
Henderson County	78.6

In explanation of the above percentages, the Bureau of Census reports: "The acreage designated as 'all lands in farm' includes considerable areas of land not actually under cultivation and some not even used for pastures, since each farmer was asked to report as a unit all the land under his control, or rather all the land which he thought of as a part of his farm."

My own judgment of the matter is the percentage reported by the Government should be cut in half and as to the territory through which highways Nos. 100 and 20 are located nor 5% of the land within two miles of the highway [fol. 322] has ever had a plow put to it. Most of it's ridge land covered by a growth of valueless timber. It is as bar-

ren a territory as will be found anywhere in the southern states east of the Mississippi River.

Q. Compare the cost of this public road with the value of adjacent and nearby land.

A. The Bureau of Census reports for Perry County a total of 1070 farms with a value of $3,228,430, which is at the rate of $20.00 per acre. These figures were secured by the census takers. Each farmer was asked to give the market value of this place, that is, the amount for which the farm would sell under normal conditions and not at forced sale. The census reported that 50% of the total land in Perry County is in farm. All of the land in Perry County is assessed for taxes at $1,934,025. The average assessed value of all lands in the county is $6.00 per acre. Each mile of this highway cost $45,000 or in terms of acres, it cost the equivalent of 9000 acres. If all the land within seven miles on each side of the highway had been sold at the average market value, the proceeds would have scarcely financed the construction of the highway.

Q. Does the new state highway from the new bridge at Perryville serve Perryville and other towns en route to Lexington, or not, giving the details?

[fol. 323] A. Highway No. 20 crosses the Tennessee River on a new bridge and leaves Perryville to the south.

Q. Will the existing public road, which I will ask you to describe in general, have to be maintained to still serve this local community, that is, the territory in general from the Tennessee River to the town of Lexington?

A. From Perryville to Lexington following close along the railroad, there is a good, county highway serving all the local communities. This highway has a good surface on it and may be used in comfort by the local automobiles travelling at a speed of 30 miles per hour. The old road is not a bee line road but curves around to fit local conditions and is so serviceable to the local folks that it will have to be maintained. The new highway will be maintained only for the purpose of furnishing a bee line route for through tourists and through commercial vehicles.

Q. Describe the property in general adjacent to route No. 20 between Lexington and its connection with route No. 1.

A. The territory adjacent to Route No. 20 west of Lexington is in Henderson and Madison Counties and is a

better class of territory than the barrens east of the Tennessee River; however, dwelling houses are few. There is not a single industry between Lexington and Highway [fol. 324] Junction No. 1, a distance of 21 miles.

Q. Are there any towns or factories or traffic producers adjacent or near this public highway?

A. There is not a single town west of Lexington on Highway No. 20 throughout the distance of 21 miles. There is not a factory or any industry productive of traffic.

Q. What is the purpose and economic justification of Route No. 20 from the Tennessee River to its connection with Route No. 1 beyond Lexington?

A. The only purpose and the only economic justification of Route No. 20 as built from the Tennessee River through Lexington and on westwardly 21 miles to its junction with Highway No. 1 is to afford a bee line road for through travel, particularly interstate tourists and commercial vehicles.

Q. Describe in some detail how the new road from Linden to Lexington fails to serve the town of Perryville, and to what extent is it still dependent upon and actually uses the ferry at that place.

A. As stated before, the new highway crosses the Tennessee River near Perryville on the high bridge leaving the town of Perryville to the south thereof. Had the bridge [fol. 325] been built through the village, the entire highway would have been on a high trestle or embankment. The local people could not have used it but would have relied on the old highway located on the original ground. To avoid this situation, the new highway was located to the north of the town so that the highway embankment would not be needed. The local citizens of Perryville will be able to get on the new highway by taking a cross road to it but with a good existing local road, they will seldom ever use the new highway but for their own convenience, will continue to use the old highway built and maintained by the counties.

Cross-examination reserved.

Further deponent saith not.

H. H. Cartwright, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. (Seal.)

[fol. 326] H. H. CARTWRIGHT, recalled for further examination, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Mr. Cartwright, will you file as Exhibit No. 1 to your recalled examination a statement of the corporate history of the N. C. & St. L. Railway.

A. Yes, sir. That is a four page statement that we filed in the tax case.

(Paper so filed and marked.)

Q. That is a complete and accurate statement?

A. Yes, sir.

Q. Have you worked up from the records of our Company a statement as to what, if anything, has been donated as a gift by public authorities to the N. C. & St. L. Railway and its predecessors in title and interest?

A. In August of this year I made a thorough study of our records to develop what assistance had been given the N. C. & St. L. Railway and prepared a memorandum of eight pages showing just what was done. I can file this as an exhibit if you want me to or shall I explain it?

[fol. 327] Q. Suppose you file it as Exhibit No. 2 to your re-called testimony?

A. Now, this is a copy of a letter that I wrote Mr. Hall on August 11th, 1932, which has the caption on it "Lexington Underpass Case."

Q. That is a complete and accurate statement of the things that the public authorities have done for our road?

A. That is correct.

(Statement so filed and marked.)

A. It shows assistance granted to the Railroad years ago and it shows that all of that was paid off, every nickel of it.

Q. Mr. Cartwright, have you recently completed a survey of railroad taxes in Tennessee, that is, what each railroad pays and that they pay to each municipality and county in Tennessee?

A. Yes, sir, I have just finished that.

Q. Will you file those statements, describing them generally, as Exhibit No. 3 to your deposition?

A. Yes. Now, this statement is a recapitulation of all the railroad taxes paid Tennessee for the year 1931. It em-
[fol. 328] braces only taxes on property used in operation. Taxes on non-carrying property have been excluded. The total amount of taxes paid is $3,210,026.35. Now, this statement was worked up as an analysis of railroad taxes for the purpose of indicating what part of the same went for schools, roads and other purposes. I think the headings on each column will explain the exhibit, and if not, I have attached a statement, as page 2, indicating the method used in making the analysis. Now, in order to show just what was paid certain counties, I brought along another recapitulation sheet, from A to H, showing Anderson County to Henderson County.

Q. Have you got that beyond Henderson County?

A. I haven't finished the paper yet, so I just brought up the first sheet.

(Since the deposition was taken the witness has furnished a completed statement and the same is filed herewith and marked Exhibit No. 3.)

Q. Have you at the same time made a study of the taxes paid by the motor buses and trucks in Tennessee?

A. Ad valorem taxes paid for 1931 by the common carrier buses and trucks have been recapped on this exhibit here, which I will file as Exhibit No. 4. The total amount of ad valorem taxes paid by all common carrier buses and trucks is $10,984.77. That would amount to about one-
[fol. 329] third of one per cent of what all the railroads paid the State.

Q. Have you any available figures as to the amount of gasoline taxes that the same bus and truck companies paid?

A. No I haven't, Mr. Hall. I didn't include that in this study for the reason that it was said that others were working on that and I didn't want to confuse the date. I can give you some comparison of the counties here, if it is of any interest, between the railroads and the buses and trucks.

Q. Mr. Cartwright, in the exhibit you have filed of taxes paid by the railroads does that include only property taxes?

A. That is all.

Q. It don't include income taxes?

A. Wait a minute. To go back to that exhibit—we have got a column there, No. 13 there is the total of all ad valorem taxes, then beyond that a column for these special taxes that were paid by the railroads. They are included in the same total that I gave.

Q. What do you mean by special taxes?

[fol. 330] A. Well, each railroad is required every year to file an annual report with the secretary of state of Tennessee and that fee is charged to taxes. Then railroads pay an excise tax to the State of Tennessee and that has been included as a special tax. Some gasoline tax is paid too. That has been included as a special tax. And then some few special assessments such as abutting property tax for streets and sidewalks and that has been included under the head of special taxes.

Q. Did that particular item, special taxes, include anything for grade separation projects?

A. Nothing at all.

Q. Does that item or any item include anything for income taxes to the Federal Government?

A. No.

Cross-examination.

By Gen. Beeler:

Q. Mr. Cartwright, this exhibit showing taxes paid to the various counties in the state by motor buses and trucks holding certificates of convenience and necessity, that is for 1931, is it?

[fols. 331–344] A. That is correct.

Q. And the assessment for that year was made by the local authorities as relates to those truck and bus operators?

A. Yes.

Q. And that has been changed now so that the assessment is made by the Railroad & Public Utilities Commission, beginning with 1932?

A. I think the Commission is now working on an assessment.

Q. You don't know the value of the tentative assessment as made by the Commission of those certificated operators, do you?

A. No. I was down to see that about ten days ago, and they were right in the middle of the work and I couldn't get the figures.

Further deponent saith not.

H. H. Cartwright, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 345] R. H. Baker, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Please give your name, residence and official position?

A. R. H. Baker, residence Davidson County, Tennessee, official position, State Highway Commissioner of the Department of Highways & Public Works of the State of Tennessee.

Q. In general, what are your official duties?

A. They are enumerated under sections 6 and 7 of Chapter 149 Acts of 1919, and also section 33, Chapter 7 of the Acts of 1923.

Q. On behalf of the State of Tennessee you, in your official capacity, ordered the Nashville, Chattanooga & St. Louis Railway by letter dated September 10, 1931, copy of which is shown as Exhibit 3 to the petition in this cause, to participate in this grade separation project at Lexington, Tennessee, did you not?

A. I did.

Q. On behalf of the State of Tennessee and in your official capacity you signed, with the approval of the Attorney General of the State of Tennessee, the contract with the [fol. 346] Nashville, Chattanooga & St. Louis Railway, copy of which you filed as Exhibit No. 4 to the bill of complaint, did you not?

A. On October 20th, 1931, a contract was entered into between the Department of Highways and Public Works and the Nashville, Chattanooga & St. Louis Railway whereby the elimination of this grade crossing would be prosecuted by The Nashville, Chattanooga & St. Louis

Railway without prejudicing any of their rights. This agreement was signed with the approval of the State's Attorney General.

Q. Describe briefly the public roads of the State of Tennessee, giving their total mileage and by what authority they were laid out, constructed and maintained.

A. The public road system of the State of Tennessee at the time it was last computed was composed of 67,928 miles, of which approximately 7100 is included in the state highway system proper. The state highway system is laid out by the highway commissioner under the authority of Chapter 149 of the Public Acts of 1919, section 7, and other acts amendatory and supplemental thereto. Section 7 of the Act is as follows:

"The state highway commissioner is given power to proceed to designate main traveled roads with a view of connecting all county seats, and also to designate other main traveled roads which are deemed of sufficient importance [fol. 347] to be included in the general highway plan of the state, and to receive for their construction and improvement financial aid under the provision of this Act."

Chapter 100 of the Acts of 1915, section 7 is as follows:

"Be it further enacted that the secretary of the Department of state highways shall have charge of all records of the department, shall keep a book record of all proceedings and orders pertaining to the business of the department, and shall keep on file copy of all plans, specifications and estimates prepared by the department. The commission shall cause to be made and kept by this department blue prints and maps showing the general highway plan of the state, such plan to consist of the main traveled roads as will, when improved, show an approved connected system of improved highways throughout the state, and collect information and statistics with reference to the mileage, the character and condition of highway bridges in the different counties of the state, and shall investigate and determine the methods of road construction adapted to the various sections of the state and shall establish standards for the construction and maintenance of highways in the various counties, giving due regard to topography, natural conditions, availability of road material, travel and traffic conditions and ways and means of the counties to meet

their portion of the cost of building and maintaining roads under the provisions of this Act."

[fol. 348] Q. The figures which you gave don't include the mileage of streets within municipal limits, do they?

A. They do not. Let me add, except the official state highway system mileage does include the streets over which these routes are routed.

Q. Of the public roads which you have mentioned how many of them are under your supervision?

A. The total mileage of the official state highway system, approximately 7100 miles, is under the jurisdiction and supervision of the department of highways and public works, and in addition the principal county roads, which are being maintained from the revenue from the two cent gasoline tax in twenty-eight counties, I believe, are under the supervision of this department.

Q. What public roads in Tennessee receive federal aid and how is this determined?

A. Chapter 74 of the Public Acts of 1917 was passed by the Tennessee Legislature to provide revenue for use in road building in Tennessee by the state highway department, acting in conjunction with the secretary of agriculture of the United States, in conformity to an act of the 64th Congress, approved January 11, 1916, entitled "An Act to provide that the United States shall aid the states in the construction of rural post roads and for other purposes." Under the provisions of the above-mentioned Act the secretary of agriculture of the United States, on October 1, 1923, [fol. 349] approved an official federal aid system for Tennessee, which has since that date, from time to time, been revised and extended pursuant to the provisions of section 6 of the Federal Highway Act, approved November 9, 1921, under which law all federal appropriations must be expended on the official federal highway system.

Q. In other words, whatever money Tennessee receives from the Federal Government is expended entirely on the technical state highway system of some 7100 miles?

A. It is expended on that portion of the technical state highway system which has been designated as the federal aid system, composed of approximately half the state highway system.

Q. Is Route No. 20 between Linden, Tennessee and Lexington, Tennessee, both a part of the technical state highway system proper and also a federal aid route?

A. It is.

Q. What is the object in distinguishing public roads of Tennessee as between the technical highway system proper and other public roads, in general?

A. One object is to comply with the acts authorizing the construction and maintenance of the state highway system. Another object is to establish within that system the primary routes or the routes which are of most service to every section of the State.

[fol. 350] Q. These primary routes and federal aid roads connect up on every side of Tennessee with similar routes in and through other states, do they not?

A. In the majority of instances, yes sir. In many instances they form a general plan which has never been consummated. The maps of other states show connecting roads that have never been opened even as yet.

Q. In other words, referring to a map on your wall here you have certain lines marked "Dixie Highway" and other named highways. Those are public highways running through many states comprising, as a whole, a thousand miles or more, do they not?

A. I don't know just the mileage but it is quite a substantial part of our system that has been designated with names which are considered to be national routes, traversing several states in most instances.

Q. What is the difference in construction, if any, and why between the technical state system and federal aid road and other public roads under your jurisdiction?

A. There is no particular difference in the construction of federal and state roads. The federal primary system is supposedly composed of the most important routes in the state. The state has several thousand miles of roads which might not be considered so important. The standard to which a road should be built is determined from the type of [fol. 351] service that it will have to render, regardless of whether it is a state or federal aid road.

Q. Well, as a practical matter, the char-ter of construction of these federal aid routes in Tennessee is designed for heavier and denser traffic than the roads which are not embraced in the state system proper?

A. That was the original intent of the federal aid measures, to adopt as federal aid roads those which were to be subjected to the heaviest traffic. It has not proven out in all cases because the trend of traffic has shifted from time to time in a manner that has been impossible to forecast.

Q. What is the average construction cost of roads under your jurisdiction per mile, eliminating the cost of right of way, property damage, engineering and overhead?

A. It is impossible to give an average construction cost of road without knowing the particular type, width, location, drainage conditions and many other items which has to enter into a final average cost of a highway. Our roads are built ranging from grader work on the existing road done at a very cheap cost, up to heavy grading and drainage construction to the width of grade, which would provide for a thirty-six foot pavement.

Within that range it is impossible to make an average unless you know the type the answer is to be based on.

[fol. 352] Q. Can you give the cost, eliminating the same factors, of route No. 100 from Nashville to Centerville and beyond?

A. I might file a statement of the amount expended on Route No. 100 from Nashville to Linden and Route No. 20 from Linden to Lexington but these routes haven't been entirely completed. If you care for me to file a statement showing the amount expended I could do so.

Q. Will you file that as Exhibit No. 1 to your testimony and then as Exhibit No. 2 the estimated amount that it will take to finish these routes?

A. Yes, sir.

Q. Now, those two exhibits together will give the completed cost, eliminating the same factors, of Route No. 20 from Linden to Lexington, won't they?

A. They will.

Q. How much money has been spent by your department since its organization under Chapter 7 of the 1923 Public Acts of Tennessee on public roads and bridges in the State?

A. The department was organized several years prior to the passage of Chapter 7 of the Acts of 1923. I have the total figures expended to date or through December 31, 1931, since the organization of the department. I don't have the figures since 1923.

Q. Well, give that total figure, please.

A. The total expenditure from organization of the department is $188,202,299.25.

[fol. 353] Q. How much of this total sum that you have just mentioned was expended on roads which now constitute a part of the technical highway system and how much on other roads?

A. The great majority of the amount, of course, named above was expended on the technical state highway system. The acts under which the department operates are such that there is only one source of revenue which may be expended on any road not included in the technical state highway system, and that is the counties' portion, or fifty per cent of automobile license fees divided equally among all the counties of the state, which may be expended on the state highway system or on the county roads.

Q. Can you give the proportion or the approximate proportion of this total expenditure on those roads which now constitute a part of the federal aid system in Tennessee?

A. I couldn't give that without a careful analysis of the expenditures, as compared with the roads on which the funds were expended. My estimate would be that something like more than fifty per cent of the total expenditures have been on the federal aid system.

Q. Who determined to change the existing route of route No. 20 through Lexington from the Clifton Street crossing to where it now is to the proposed underpass under the Railway's tracks, and why was this done?

[fol. 354] A. Under Section 7, Chapter 149 of the Acts of 1919, the State Highway Commissioner was given power to proceed to designate the main travelled roads with a view of conecting all county seats and also to designate other main travelled roads which are deemed of sufficient importance to be included in the general highway plan of the State and to receive for their construction and improvement financial aid under the provisions of this act. Under Section 9 of this Act it is provided that whenever the state highway commission feels it necessary or advisable, it shall have power to alter the course or grade or otherwise improve any road selected, adopted or accepted for federal or state aid and take over and improve as a state highway. The original road was a narrow county road and it was necessary, in order to secure proper alignment and grade, to re-locate this road, which was done in accordance with the authority vested by the above-mentioned section.

Q. Why, in routing this route No. 20 from the Tennessee River to and through Lexington, did the new road not pass through the Town of Perryville and several other towns and municipalities between the River and Lexington now served by the local county road?

A. The location of Route No. 20 west of the Tennessee River, insofar as its connection with Perryville is concerned, was determined by the bridge site of the Perryville bridge across Tennessee River. The site at which this [fol. 355] bridge was built was far superior to any other in closer proximity to Perryville. The road is located so as to serve adequately various communities which have been built up along the old road, in some instances requiring a short connection between the new location and the old road.

Q. Can you give the number of communities or municipalities between the river and Lexington now immediately located on the new route No. 20?

A. I couldn't without examining our plans.

Q. Suppose at your convenience you file as Exhibit No. 3 a list of the towns from Perryville, including Perryville, to Lexington on the old road, giving the number that are likewise directly on the new route 20.

A. I will.

Q. Will you please file as Exhibit No. 4 to your testimony an exact copy of the contract or contracts between the State of Tennessee and the Department of Agriculture or the Bureau of Public Roads of the United States for the construction of that portion of Route No. 20 between Linden and Lexington?

A. I will.

Q. Will you please also file as Exhibit No. 5 copies of such report or reports, if any, as you may have, made by representatives of the Bureau of Public Roads of the Federal Government with relation to this project?

A. I will.

[fol. 356] Q. Have you in your official capacity called on the Federal Government for federal aid for this Lexington underpass involved in this case?

A. We have not.

Q. Will you do so?

A. We will not.

Q. May I ask why?

A. We have found that the complications in submitting account to the Bureau of Public Roads, especially for work

done by the railroads in the elimination of grade crossings, has been such as to make it almost impossible for us to collect federal aid. The railroads have a method of keeping their accounts peculiar to themselves apparently and it is almost impossible to get those accounts in such form as to comply with the requirements of the Bureau of Roads in submitting them. We, therefore, have found it to be pretty much a waste of effort to try to obtain federal aid in grade crossing elimination, especially when the work is done by the railroads themselves.

Q. In this particular case, by contract with your department, the railroad was to do the actual construction work?

A. Yes, of the structure part.

Q. In how many instances in similar grade elimination projects have you, representing the State of Tennessee, called on the Federal Government for federal aid under the applicable provisions of the Post Office Appropriations [fol. 357] Act of June 19, 1922, being paragraph 3 of section 4 of Vol. 42 of the United States Statutes at Large, at page 660?

A. I don't recall any instance during my tenure of office as commissioner where we have called on the Bureau of Roads to participate in grade separation under that act.

Q. What was the object of the highway department, if you know, if it was determined while you were in charge, in building this new route from Nashville to Lexington via Centreville and Linden?

A. The object of the highway department, in constructing roads, has always been to connect county seats and furnish adequate traffic service to local and through traffic, and at the same time open up country which has not heretofore been served with adequate roads or by adequate roads.

Q. This particular road touches no county seat between Nashville and Centreville, does it?

A. It does not, no.

Q. Why is the state highway department undertaking to build this road and this underpass as part of Route No. 20 within the municipal limits of the town of Lexington rather than leave the determination of the route and character of the construction and so on to the municipal authorities?

A. Under the provisions of Chapter 42 of the Public Acts of 1929 the state highway department is given authority, should it so elect, to build a highway through any [fol. 358] incorporated town or city in the State of Tennessee. This act also makes it mandatory on the department to pay its proportionate cost, based on eighteen foot width, of any street which is built through any town or city over which state highways are routed. It was under this act and in order to provide a satisfactory length, conforming to the requirements of the department and of the Bureau of Public Roads, that the section of this route through the town of Lexington was included in our plan.

Q. When you refer, in your answer to that question, to the Bureau of Public Roads, you mean the Bureau of Public Roads of the United States operating under the Department of Agriculture?

A. I do, yes, sir.

Q. Can you approximate the traffic density on the public road from Perryville, Tennessee, to Lexington prior to the building of the present route No. 20 and the general nature and character of travel thereon?

A. It will be necessary for me to investigate our records of traffic counts on our roads which have been conducted for a number of years before I could give you a reply to that question. I might file as an exhibit a traffic map which was prepared prior to the construction of Route No. 20.

Q. Will you file that as Exhibit No. 6?

A. I will.

[fol. 359] Q. Are you sufficiently familiar with the details of the local situation to state what was the character of travel on this former road and the existing road from Perryville to Lexington?

A. Prior to the construction of it the travel has been, on account of the unsatisfactory condition of these roads, held practically to a minimum of local traffic.

Q. In other words, from Perryville to Lexington this county road was an ordinary country road used as any country road of that general type?

A. I will say it was a very ordinary country road.

Q. Why, in forming the line for this new route No. 20 from the Tennessee River to Lexington did you not follow the existing country road?

A. It was impractical to do so on account of its winding location. In building new roads to such standards as roads are built at this time, following old existing grade, adequate service cannot be rendered to any quantity of traffic by doing so, and the money spent in perpetuating a road on improper alignment is money wasted.

Q. Can you give the difference in the mileage over the new route No. 20 from the Tennessee River to Lexington and the route by the existing and old county road from the Tennessee River to Lexington?

[fol. 360] A. I couldn't without checking it against our original plans. I might get that information for you if you care to have that.

Q. If that information is available in your office will you get it and file it as Exhibit No. 7 to your testimony?

A. Yes, sir.

Q. What is the mileage by highway between Nashville and Memphis, and what, in general, is the volume and character of motor vehicle traffic between those two points?

A. The mileage between Nashville and Memphis, via Lexington and Jackson, is 210.69 miles over route 1,100, 13 and 20 and 1, that being measured from the zero mile stone at Nashville to Third and Union Avenue in Memphis. The character of this traffic is motor car, truck, bus, horse drawn and pedestrian.

Q. So far as movements from Nashville to Memphis are concerned, of course, it would be exclusively motor vehicle traffic?

A. So far as through movements are concerned it would be motor vehicle, with possible some pedestrians.

Q. The state highway department, in order to take care of this traffic from Nashville to Memphis, has provided two routes, one known as Route No. 1 and one Route No. 100, and that, in turn, in connection or conjunction with other routes, has it not?

[fol. 361] A. It has provided two that are in passable condition at the present time, Route 1 from Nashville to Memphis, and then Routes 6 and 15 via Lawrenceburg to an intersection of Route 1 in Shelby County. The preparation of Route 100 with its connection with Route 20 is a third route that traffic may use.

Q. Describe in general, the difference between the public roads in Tennessee in 1900 and at the present time.

A. I could hardly describe the roads in 1900 as I wasn't over them enough to recall their condition but I might assume that they were somewhat similar to what they were about 1915 when the state had no roads whatsoever. Some of the counties had some fair macadam roads.

Q. You do know that prior to 1915 the layout of public roads was a county matter and that there were no generally designated through routes between the larger cities?

A. There were some connecting routes between various counties by toll roads but there was no general highway plan which could give traffic a continuous route between the larger cities.

Q. How much money did the state highway department of Tennessee actually spend in the fiscal year ending June 30th, 1931?

A. The Department of Highways and Public Works expended in the improvement, construction and maintenance [fol. 362] of its road system from July 1st, 1930, to June 30th, 1931, including all items of cost, $30,455,476.54.

Q. Did that include expenditures for bridges?

A. It would be necessary for me to make a check of that figure to see if that included our toll bridge construction. It does include, I know, all of our ordinary bridge construction.

Q. Mr. Puryear in his Exhibit No. 1, on page 19, states that for the fiscal year ending June 30th, 1931, the Highway Department spent $32,144.76 on highways, and in addition, on highway bridges, $1,838,057.07. How is the apparent discrepancy between your figures and Mr. Puryear's figures accounted for?

A. There is always a difference in the recorded figures of the Highway Department, both for expenditures and receipts, with the figures published by the Department of Finance and Taxation, which is most easily explained by the statement of the accounts in transit which have originated with this department and have not been paid and have not been taken into account in his records, or that, in the beginning of the fiscal year, accounts which have been paid and recorded as paid by our department and are carried over into the subsequent fiscal year in the Department of Finance and Taxation. Those accounts are reconcilable; we do reconcile them but they are never the same.

[fol. 363] Q. What portion, approximately, does the motor vehicle traffic make up of travel on the technical state highway system?

A. The motor vehicle traffic consists of a very large percentage of the traffic on our state highway system. We have had for several years traffic counts which show the type of traffic using our roads at various controlled stations, and more detailed information in answering that question may be given you by Mr. Goetz, of our department, who has control of that division of our work.

Q. The federal aid roads, however, are designed primarily for motor vehicle traffic, are they not?

A. In designing roads they are designed for the heaviest and fastest traffic which will use them. Therefore, all high type roads are designed for motor traffic, of course, incidentally taking care of any other type which would be required to use them.

Q. Can you estimate the prospective traffic density through this new underpass at Lexington and what character of traffic that will be, giving the basis of your estimates?

A. At the present time the traffic which is using that Route No. 20, both local and through traffic, including the traffic in the town of Lexington, must cross the grade crossing on Clifton Street. When you take into consideration the present condition of Routes 20 and 100 and the betterment which is planned for those routes, it will result in [fol. 364] an increase in traffic both as to density and speed. The crossing with the number of train movements which occupy the crossing will become an increased hazard. It was with a view of relieving delays, as well as removing the hazard to the traffic, that we included the grade separation in our plan for the completion of Route 20.

Q. How much money did the State Highway Department of Tennessee spend on public roads and bridges, not counting interest and excluding what was spent by counties and cities, in the seven fiscal years ending June 30, 1930?

A. I don't have the amount for seven years preceding June 30th, 1930, but from the organization or the beginning of the State Highway Department to June 30th, 1930, the Department expended a total of $141,014,300.02 in construction, maintenance, improvement and general expenditures.

Q. Does that include federal aid funds?

A. It does.

Q. It does not include, however, what the counties and cities spent?

A. It does not include what they spent as they may have contributed to the construction of state highways.

Q. Do you know how much for the same period the counties and cities, as distinguished from your Department, spent on public roads and streets?

A. No, sir, I do not.

[fol. 365] Q. What is the object and purpose of the State of Tennessee in cooperation with the Federal Bureau of Public Roads under the Department of Agriculture, and what are the plans, in general, which you undertake with the Bureau to work out, and what is it, in general, you see to accomplish?

A. Well, the object of the Department of Highways and the Bureau of Public Roads in contributing to and building highways is to render traffic service to the people of the state. That covers, I think, or answers the question you asked.

Q. Does the State Highway Department or the Bureau of Public Roads furnish at their expense or the expense of either of them any protection at grade crossings in the way of watchmen, electrical warning devices or otherwise, or is that left exclusively to the railroads?

A. The State Department has a system of caution and warning signs which has been adopted by all the states in the United States in a general plan to furnish protection to traffic. The Department does not furnish watchmen or electrical warning devices but it does mark its crossings, the grade crossings on its highways with railroads with the nationally adopted warning signs, giving warning to traffic of railroad crossings, and, in Tennessee, requiring traffic to stop before crossing.

Q. Does the State of Tennessee or its Highway Department require the owners and users of motor vehicles to pay anything directly towards grade separation projects or [fol. 366] grade crossing protection?

A. The owners and users in Tennessee pay the entire highway bill as a direct tax in the form of privilege tax on gasoline and the license fee for the operation of the motor vehicles. We have not and do not call upon the Bureau of Public Roads to pay federal aid in the elimination of grade

crossings and in grade separation, except that, I believe we have called on them a few times for overhead crossings. Therefore, it is proper, I think, to state that the owners and users of motor vehicles do pay directly the share in the case of the crossing that is borne from state highway funds.

Q. Can you name any motor vehicle operator or any truck company or any bus company or any concern except The Nashville, Chattanooga & St. Louis Railway, that has been asked by you to pay one dollar directly towards this grade separation project?

A. I cannot except that they have to pay their gasoline tax and motor vehicle licenses, which provide revenue from which the state will pay its cost.

Q. In other words, all the contribution, except from The Nashville, Chattanooga & St. Louis Railway, comes from the general motor vehicle taxes, such as gasoline, registration, and the like?

A. Highway funds come from those taxes.

[fol. 367] Q. What I mean by direct payment, you don't call on any citizen or any bus company or any truck company or anybody except the Nashville, Chattanooga & St. Louis Railway to make a specific, direct contribution to this project?

A. No.

Q. In Tennessee are common carriers by bus and truck ever requested to make any specific, direct payment toward any grade separation project such as this one at Lexington?

A. None except in the taxes that go from them into the State Highway Department funds. No direct call is made on any of those.

Q. If I caught the answer to one of your recent questions, you said that motor vehicle users pay the entire cost of road construction. You didn't mean by that that no money goes into the public highway except that from the special motor vehicle tax, did you?

A. No, I should have enlarged on that somewhat. I don't know just the source of the federal aid fund. I don't know where the Government collects the federal fund with which they participate in certain highway work. As far as the operation of the Tennessee Highway Department is concerned, the entire fund which we have comes from two sources, the automobile license fee and the gasoline tax, plus an interstate mileage tax or mileage tax on interstate busses,

which was enacted by the last extra session of the legislature. Then the Department, prior to 1928, accepted contri- [fol. 368] butions amounting to something more than $30,000,000 from the various counties. Those contributions were ordinarily from bond issues, but under Chapter 23 of the Public Acts of 1927, the State, by a one cent tax on gasoline, was to repay interest and principal on the contributions made by those counties and the counties are required, under this Act, to use this fund which is repaid to them, in the payment of the interest and principal of those obligations. Therefore, that $30,000,000 is being paid by the automobile users from the gasoline tax, not all of which comes from the automobile user but the great majority of it does.

Q. You don't mean that our road system has been paid for currently from special motor vehicle taxes but from that, plus moneys derived from the sale of notes and bonds also?

A. That is true. The provision that has been made for the payment of interest and principal on notes and bonds has been based on gasoline tax collections.

Q. But the security of those bonds is not limited to motor vehicle taxes but is a general obligation either of the county or of the state, is it not?

A. The security of the state notes and bonds is a general obligation of the state.

Further this deponent saith not.

R. H. Baker, by W. Howard Fish, Reporter.

Sworn to before me when taken March 28th, 1932. W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 369] R. H. Baker, recalled for cross-examination, deposed as follows:

Cross-examination.

General Beeler:

Q. You stated in response to a question of Mr. Hall on your examination in chief that the public road system of the State consists of 67,928 miles and that the State Highway system proper consists of approximately 7,100 miles. Please go a little more into detail and describe the public

road system of the State insofar as it is not embraced with the State highway system proper.

A. The State highway system is composed of approximately 7,100 miles, which leaves 60,728 miles of public roads of the State which are maintained by the several counties, primarily with the revenue obtained from the two-cents of the State gasoline tax which is allocated to the counties for county road maintenance. In a number of cases, however, the two cent tax is supplemented by local county revenues. This public road system, exclusive of the State highway system, constitutes the feeder road system for the State Highways, the State highway system being composed of the principal roads of the State and the finished trunk line system, which is given the feeder service of the larger mileage of county roads.

The only city streets included in the 67,928 miles, which includes the State highway system, are those city streets over which the State highways are routed.

[fol. 370] Q. These latter roads that are embraced in the public road system of the State and are not a part of the State highway system proper, do they come into the State Highway system proper at the various little towns and cities and shipping points of the State, in the main?

A. The county roads feed into the State highway system proper at the towns and cities and various communities in the State, but of course there are a great many feeder roads which are county roads that come in at intervals throughout the County.

Q. With reference to the gasoline tax available for highway construction of all kinds in the State, please go into detail and tell about how much that tax will amount to, for what purposes it is subject to expenditures under the law as it is today, taking the total gasoline tax of seven cents on each gallon and showing how it is distributed and expended.

A. The seven-cent gasoline tax is set up by law to be distributed as follows: One cent for the General Funds of the State to provide for deficit bonds that were authorized to be issue by the extra session of the legislature in December 1913. Two cents of the tax is set aside for county roads, one cent of which is prorated to the counties on the basis of 50% area and 50% population. The other cent distributed to them equally, or 1/95 to each county. One cent

of the gasoline tax is set aside for the interest and principal [fol. 371] of State highway obligations, of which there is $47,200,000, which became effective January 1, 1931, for this purpose 1/10 of one per cent is set aside for the interest and principal on the Smoky Mountain Park bonds. 1-9/10 cents of the gasoline tax goes into the general highway fund for construction, reconstruction and maintenance; and one cent goes to the counties for reimbursement construction the counties have made to State highway construction under the provisions of Chapter 23, Acts of 1927. The first State gasoline tax was levied in 1923, two cent tax being levied at that time, effective January 28, 1925. The tax was increased from two cents to three cents. Effective February 22, 1929, it was increased from three cents to five cents. Effective June 30, 1931, it was increased from five cents to seven cents. The total net collection beginning with the calendar year and carried forward by calendar years, excluding expense of collection:

For 1924	$1,288,863.93
1925	3,125,467.23
1926	3,748,461.28
1927	4,013,973.62
1928	4,991,098.61
1929	8,872,576.38
1930	10,577,247.59
1931	11,241,300.80

These figures are the total net collections from the gaso- [fol. 372] line tax proper.

Stipulation:

It is agreed that the total net gasoline tax under the law as it now exists is expended all for road purposes, including retirement of bonds for roads, except one-tenth of one cent goes to the Smoky Mountain National Park and one cent is temporarily diverted to take care of five million dollars of short term emergency bonds issued by the last extra session of the Tennessee Legislature to take care of the current deficit of the general funds of the State, and one cent not diverted was levied for that purpose.

Q. With reference to federal aid for highways in the State of Tennessee, please state whether or not conditions

have changed in any way, and if so, in what respect, since your examination in chief in this case.

A. July 1932, the Congress passed an emergency relief and construction act which provided $120,000,000 as an emergency highway construction fund for the several states. Tennessee's share of this fund was approximately $2,600,000, and it has been used to match and place under construction federal aid roads in the State that have been built by 50% of the cost being defrayed by the emergency fund and 50% by the regular federal aid fund which was available, but for which there was not sufficient state revenue to match.

[fol. 373] Q. Does that $2,600,000 allocated to the State of Tennessee have to be repaid to the Federal Government or is it taken under consideration with future allocations to the State——

A. It is to be repaid by deducting at the rate of 20% per year beginning in 1928. The amount so advanced from federal aid road allotments.

Q. Please explain how the State of Tennessee procures from the Reconstruction Finance Corporation destitute relief funds, how this fund is being expended, how it will be repaid by the State to the Federal Government, if at all; and if it is to be repaid, will it affect future allocations by the Federal Government to the state as regards participation by the Federal Government in highway construction.

A. The Congressional Act referred to in the previous answer also provided three hundred million dollars for destitute relief to be allocated to the various states on the basis of their need, and handled through the Reconstruction Finance Corporation. Tennessee has obtained to date $789,036 of this fund for destitute relief in 55 counties. The Reconstruction Finance Corporation bases its allotment of this fund to the various counties of the State on the information furnished to them as to the actual destitution existing in [fol. 374] these counties, and limiting the funds to such an amount that those who are destitute will be provided only with the necessities of life. This fund obtained for the State is being used exclusively for work relief, the work being on the roads in the reconstruction of State and county highways. It is required that the amount advanced to the State be deducted from future Federal aid allotted to the State and beginning in the fiscal year 1935, it is required

that 20% per year of the amount advanced be deducted from Federal Aid allotments to the state, with interest at the rate of 3% per annum.

Q. These items that are advanced to the State in this way—they will include the $2,600,000 of which you have spoken—they are simply advanced by the Federal Government against future allotments of Federal aid, aren't they?

A. Yes, sir.

Q. With reference to this underpass, known as the Lexington underpass, please state why you as Commissioner of Highways, considered it necessary to separate this crossing at grade and what prompted you to direct the N. C. & St. L. Railway to participate in the cost of this separation.

A. The section of the road on which the Lexington underpass is located was in the original highway plan of the State for trunk line highways, and the construction of this section has been deemed necessary in order to render people of [fol. 375] the State proper traffic service. The laws of the State require the participation of railroads in grade separation structures on the State Highway system. The necessity for the development of this route in order to provide proper traffic service and the law requiring railroad participation in the grade elimination prompted me to direct that the N. C. & St. L. R. R. should participate in the cost of the grade separation. The original road which was used for a good many years by local traffic was entirely unsatisfactory in its alignment and grade, and the best information that I have available at the office indicates that there were eight grade crossings on this old road between Perryville and Lexington, including the Clifton Street crossing in Lexington. By the re-location of this as a high standard road, seven of these crossings were eliminated without cost to the railroad company. The eighth which was impossible to eliminate by relocation, is eliminated by the construction of the underpass.

Q. Does that then leave any grade crossings between Perryville to Lexington on the N. C. & St. L. Line?

A. It does not—on Route 20.

Q. Do you recall what that distance is between Perryville and Lexington?

A. From the Tennessee River to the court house in Lexington by the old Route is 24.53 miles. From the Tennessee

River to the court house at Lexington by the new route is 21.12 miles.

[fol. 376] Q. Did you, as an engineer, basing your answer on your experience as Highway Commissioner, figure that as a matter of safety not only to the public traveling along the highway, but to the train crews and passenger crews, it was necessary to eliminate this crossing at grade?

A. I did—yes sir.

Q. Do you have in your possession blue prints showing the alignment and layout of this grade crossing separation involved in this lawsuit, and if so, please file them as Exhibit 1 to your cross examination? And explain them.

A. I have and will so file them. The layout sheet for the State Highway Route No. 20 from Lexington to Parsons is shown on Sheet No. 1 of the Exhibit and gives the alignment of the route. It shows the location of the Perryville Bridge, the line of the N. C. & St. L. R. R. and the approximate location of the feeder roads leading into the State Highway No. 20. The two sheets following the layout sheet show in detail the location of the route leading from Monroe Street west of the Court House in Lexington to Station 40 plus 49.5 on the project. These detailed sheets indicate the type of grade and alignment which has been obtained on this route between Parsons and Lexington, and include the location of the underpass east of Lexington. The standard adopted for this construction is such that such development as is made along it should be permanent and require no future changes in order to properly serve local and through traffic.

[fol. 377] Q. Was that road designed for any particular kind of traffic or for all kinds of traffic?

A. For all kinds that desire to use it.

Q. You stated on your examination in chief that the location of Bridge No. 4 over the Tennessee River between Linden and Lexington near Perryville was the intermediate control point in determining the location of the Linden-Lexington Road. Will you give us the cost of that bridge?

A. The cost was $767,537.97.

Q. Is that one of the toll bridges of the State?

A. It is.

Q. Are the receipts from this toll bridge set up to pay the interest and to create a sinking fund to retire the bonds?

A. Yes, sir.

Q. Can you give us the approximate width of the territory between Highway No. 1 on the north and Highway No. 15 on the south which is served by this road?

A. The width of the territory scaled from our maps between Highway No. 1 on the north and Highway No. 15 on the south is 55 miles. The distance as scaled on the map from Highway No. 1 on the north to Highway No. 20 is 28 miles. From Highway No. 15 on the south to Highway 20 is 27 miles. The road distance paralleling the river from Highway No. 1 to Highway No. 20 is 38.77 miles. From Highway No. 15 to Highway 20 the road distance is 45.08 miles.

[fol. 378] Q. With reference to north and south traffic, and by that I mean traffic originating in the main north of the Ohio River or at least north of Tennessee, and going to points south, such as Georgia, Florida and Alabama—state whether or not because of the geographical location of the State of Tennessee most of that traffic crosses the State of Tennessee?

A. It does cross the State of Tennessee—the majority of it does.

Q. Will you please state in a general way the layout of the trackage of the Nashville, Chattanooga & St. Louis Railroad, with reference to east and west and north and south State highways which form a part of the State highway system?

A. In general, the trackage of the Nashville, Chattanooga & St. Louis Railroad is laid out along the east and west lines and in a great part of the mileage of the N. C. & St. L. R. R.—it parallels Tennessee state highways.

Q. Would you say that the interstate traffic by motor bus and truck and private car crossing the State of Tennessee will come into it or through it, in the main, east and west, or north and south traffic across the State?

A. We have, on account of the geographical location of this State, a great deal more north and south traffic than we do east and west traffic. The fact, too, that the long dimensions of the State are east and west, and that the population centers of the north and northeast move back and forth from north to south more generally than they do from east to west, materially increases the traffic volume on our north and south highways.

[fol. 379] Q. Is that particularly true of commercial motor vehicles?

A. From observation I would say that there is a good bit more commercial vehicle operation north and south than east and west, but I don't have any figures on it.

Q. In order to get it in the record, you might state with reference to the main rivers of this state in what directions they run in the main, whether they cross the State of Tennessee north and south or in that general direction?

A. The main rivers of the State tend to run from east to west, and the general lines of the principal rivers run from east to west except in the case of the Tennessee River where it crosses the State west of Middle Tennessee, and the Tennessee River at that crossing runs almost directly from south to north.

Q. You filed as your Exhibit No. 4 to a question propounded to you in your examination in chief a contract on this project for construction of the road between Lexington and Linden made with the Department of Agriculture of the Federal Government under which the Federal Government participates in the cost of this construction. Please state whether or not it is required in that contract that this grade crossing at Lexington be eliminated?

A. It is required, and I might read the clause in the contract which is termed a Project Agreement for Project No. E-227A, referring to the elimination of the grade crossing. This clause is found on page 5 under Section D of the Project Agreement, which I quote:

[fol. 380] "The Highway Department hereby agrees that prior to the final payment of Federal aid on this project it will begin the construction of an underpass between Survey Station 15 plus 00 and 36 plus 04 now made an exception to this project. Such construction to be in accordance with the statutes for Federal aid projects."

This particular grade separation is the one involved in this lawsuit.

Q. Is that the usual practice of the Federal Government in regard to crossings of this character on highways in which the Government participates in the cost?

A. It is.

Q. Outside of that requirement by the Government, I believe you stated your judgment as an engineer and as

Highway Commissioner prompted you to require the grade separation anyway?

A. Yes, sir, I did.

Q. Has any of this been done on this route since your testimony in chief?

A. Yes, the section of the State Highway No. 100 between Linden and Centerville has been re-graveled preparatory to an asphalt surface treatment of this section in 1933. The contracts have been let and a good portion of the work completed for the paving of Route 20 from a point several hundred feet east of Parsons into the Town of Lexington. The contract has been let for the paving [fol. 381] of State Highway No. 100 from the Williamson County line through Davidson County to the intersection of State Highway No. 100 with State Highway No. 1.

Q. Why is it, if you know, that the Government requires grade crossing separation on these highways?

A. Primarily for the safety of traffic using the highways. It is in the discussion of grade elimination the Government has repeatedly brought out the benefits to the railroad companies by reason of the elimination of grade crossing accidents and serious results to the railroad companies from these accidents.

Q. What has been your experience with reference to traffic being increased, both local and through traffic, by the construction of a highway of this character?

A. The experience of this department has been that construction of roads suitable for automobile traffic very greatly increases the local and through traffic. Many people who never owned automobiles until roads were built sufficiently near to them, purchased cars when roads were made satisfactory. Traffic, both intra-state and interstate, usually follows the line of least resistance. In going from point to point they pick usually the safest and best road. In the construction of the State highway system in Tennessee, it has repeatedly been shown the swing of traffic is from one beaten path to the newly constructed road.

[fol. 382] Q. How long has Highway No. 1 between Nashville and Memphis been open for traffic as a part of the State highway system?

A. About eight years.

Q. When Highway No. 100 connecting with Highway No. 20, between Nashville and Memphis, is finished, what will

be the effect in regard to relieving Highway No. 1 of some of the traffic that theretofore had been carried on it?

A. The standard for the location and construction of Highway No. 100 and 20 from Nashville to Jackson—that is, from one end of the route to the other—is higher than the standard on which Highway No. 1 was built, and for that reason—the fact that the trip can be made faster and more comfortably and safer, this new route to Jackson will relieve Highway No. 1 of a great deal of the traffic it has heretofore carried. It will also relieve State Highway No. 15 of a considerable amount of traffic that it has heretofore carried from east to west and west to east.

Q. Some contention has been made in the record by some of the witnesses for the railroad company to the effect that the construction of Highway Nos. 100 and 20 were not justified by the conditions that exist along the lines of these routes. Please comment in any way you see fit on this insistence.

[fol. 383] A. Our construction of these routes naturally proves that we disagree with the railroad companies in that contention. The development of the State highway system has been a relatively slow process, but it has gone about with definite ideas of service to the people in mind and definite plans of ultimate construction. The routes involved in this case serve a wide territory otherwise unserved except by practically impassable county roads, and the population which is located within the territory served we feel is entitled to proper highway service, and all these things are taken into account in the construction of this route.

Q. Before this highway was constructed and its location determined upon, state whether or not you, as Commissioner, had any demand or request from the citizens along this route that the road be located and constructed approximately where it is. Was there any popular demand for the road in that territory?

A. There was a terrific demand for the construction of this route by the local people, which has not even yet ceased. A great many delegations have visited me since I have been Highway Commissioner and while I was in the Department prior to that time, many delegations visited me, and many delegations visited my predecessor in the interest of the construction of this road.

[fol. 384] Q. What is your judgment as Highway Commissioner as to whether or not the State now has about laid out and constructed all of the main portions of the State Highway system that will be constructed and as to whether or not the expenditures for highway purposes will now be for maintenance and upkeep of the highways now built?

A. The expenditure in the future in the main will be for reconstruction and repair. The trunk line of roads is well along toward completion. There are comparatively few missing links that will demand early attention. The big problem for the State Highway Department in the future will be the maintenance and reconstruction of the roads that have been built.

Q. Do you anticipate the availability of any funds in the immediate future arising from bond issues for highway projects?

A. None at all.

Q. In your examination in chief you were asked why the old location of the old road was not followed in locating this new road. You have stated that several grade crossings were eliminated between Perryville and Lexington by the location of the new road. Are there any other reasons why the old location was not followed?

A. In addition to the grade crossings, the alignment of the old road was entirely unsatisfactory for the present-[fol. 385] day speed and weight and volume of traffic. The old road was probably laid out when the first settlers moved into the territory that was served by it. And the new road is located along the lines that are being followed in the State for its permanent road location.

Q. Do you have a route map showing in general the location of the old road, the location of the new road, which was submitted as a part of the project agreement to the Federal Government?

A. I have and it was filed as Exhibit No. 5 to my testimony in chief.

Q. You stated in your examination in chief that for the fiscal year ending June 30, 1931, and beginning July 1, 1930, the State Highway Department expended in the improvements and construction and maintenance of its road system $30,455,476.54. Please state how much the Department has spent for the same purposes during the next succeeding fiscal year.

A. The total amount spent for the fiscal year ending June 30, 1932, for all purposes was $10,435,881.55, which amount included a transfer from the State Highway Funds to the General Funds, of $1,200,000 directed by Act of the Extra Session of the Legislature in December, 1931.

Q. Did your figure showing the expenditure for the preceding fiscal year include funds arising from bond issues or sale of short-term notes?

[fol. 386] A. It did—yes sir. In the fiscal year ending June 30, 1932, there was a material reduction in the anticipated receipts from automobile license fees and gasoline tax, which apparently was due to the depression.

Q. Is the outlook any better for any more money for the next year or two from automobile license tags and gasoline taxes?

A. The receipts for the calendar year 1932 have fallen materially below the calendar year 1931 and apparently receipts from these sources will continue to decrease.

Q. In your examination in chief you state that since the organization of the State Highway Department down to June 30, 1930, the State had spent for highway and bridge construction, maintenance and general expenditures $141,014,300.02. Please state whether this includes all sums that have been contributed for highway construction by the various counties of the State and does it include any sums that the counties themselves spent on their own roads?

A. It does include all sums that were contributed by the counties to the State and spent by the State in the construction on the State highway system, but does not include any contribution by the counties of funds spent on county roads nor does it include the cost of county roads to the county.

[fol. 387] Q. State whether it includes the thirty million dollars which the State is reimbursing or repaying to the counties which has been spent on highways?

A. It does include the more than thirty million dollars being reimbursed to the counties under the provisions of Chapter 23, Acts of 1927.

Q. Are the expenditures which are made by the cities and counties independently of the State Highway Department in the main on roads that are parallel to state highways proper or are they made on lateral roads that operate as feeders into these roads?

A. In the main, these expenditures are made on the lateral feeder roads.

Q. Can you give the revenue by calendar years arising from automobile license fees beginning with 1925?

A. The net revenues, which do not include the cast of collection, have been as follows:

1925	$2,995,596.65
1926	3,384,929.05
1927	3,663,940.87
1928	3,961,580.05
1929	4,181,177.90
1930	4,656,113.84

[fol. 388] of which $237,097.06 went to the Department of Finance and Taxation for the operation of the State Highway Patrol; 1931, $4,448,984.55 of which $227,246.68 went to the operation of the State Highway Patrol. The estimate of revenue from this source for 1932 is $3,800,000 of which $190,000 approximately, will go to the operation of the State Highway Patrol.

Q. Under the law, how is this fund divided for expenditure as between the State and counties and how is it spent and for what purposes?

A. The total gross collections have first deducted from them the cost of the collection. Of the remainder of the fund 5% is allowed for the operation of the State Highway Patrol, the 95% remaining is credited to the State Highway Department, the General Highway Fund, 50% as an unrestricted fund for construction and maintenance; 50% allotted equally among the 95 counties of the State and required to be spent by the Department in maintenance and improvement in the various counties, giving each county a minimum expenditure of 1/95 of 50% of 95% of the net collection.

Q. Are there any other funds regularly available for highway construction except a portion of the gasoline tax, as the law now is, and the funds arising from this automobile license fund?

[fol. 389] A. They are the only two sources of State funds for highway construction and maintenance. The Federal funds could not be counted as regularly allotted funds because each succeeding Congress has to provide these funds for the two years during which the Congress is in session. There is one other source of State funds which has not provided very much revenue. The estimated revenue for highway purposes from the Motor Vehicle Mileage tax for the calendar year 1932 is $18,520.97. That is based on

actual collections through October and estimated collections for November and December. This is the fund derived from the mileage tax on interstate common carriers by bus and truck operation.

Q. Taking into consideration these two sources of income for highway funds, viz, the automobile license tax and gasoline tax, and assuming that the amount of the tax and the allocation of that gasoline tax to the various purposes are not changed by the incoming legislature, can you give us an estimate of about how much funds you will have available for highway construction and expenditure for the next two years?

A. Basing our estimate of revenue from both sources on the collections for 1932, there should be available approximately seven million dollars per year for all highway purposes during 1933 and 1934.

Q. Does that include the 50% of the 95% of the automobile license fees that are allocable to the counties?

[fol. 390] A. That does include the counties portion of the automobile license fees. It includes all of the interest and principal that is required to be paid in excess of the amount that will be taken care of by the one cent gasoline tax and the bridge tolls on the toll bridges, which will likely amount to some $600,000 per year.

Q. How many bonds are outstanding that have been sold for the State for construction of toll bridges?

A. $13,850,000.

Q. Are the tolls from those bridges sufficient to pay the interest on those bonds and to create a Sinking Fund for the bonds as they mature?

A. They are not. An Act of the recent legislature required that the amount over and above the income from the bridges necessary to take care of the interest be paid from State Highway Funds.

Q. Are you referring to the General Appropriation Bill, and if so, I will ask you to read that provision into the record as to how that interest and retirement takes place.

A. The General Appropriation Bill, Regular Session, Public Acts of 1931 provided that the net amount realized from the collection of tolls on toll bridges be applied toward the payment of the principal and interest on bonds issued to construct tolls bridges and that any additional [fol. 391] amount necessary to pay the principal and in-

terest on said bonds as the same becomes due shall be paid out of any revenue or fund heretofore or hereafter provided for the maintenance or construction of highways.

Q. As a matter of fact, are the tolls from those bridges sufficient to pay the interest on the bonds?

A. They are not.

Q. Can you tell about how much it has required out of the general highway funds to pay that interest?

A. The interest on the $13,850,000 of special bridge bonds totals $629,686.79 per year. The total collections for 1932 will be approximately $350,000, leaving a deficiency of $279,686.79 to be met with highway funds. The interest on $47,200,000 of highway notes and bonds is $2,295,250 approximately, annually. The collections in 1932 from the one cent of the gasoline tax allotted for the payment of interest on this group of bonds will amount to approximately $1,950,000 leaving a deficiency of $345,250.00 to be met from highway funds. The interest for both the toll bridge and highway notes and bonds to be met from highway funds will approximate $624,000. That is for the past year, and we are using that for an estimate for the next two years.

[fol. 392] Re-examination.

By Mr. Hall:

Q. That means that taking the State Highway bonds and notes, proper, of approximately $47,000,000 and the additional State bridge bonds of approximately $13,000,000, the sources of revenue allotted by statute fail to meet the interest alone by approximately $600,000 a year?

A. That is true, except that on January 1, 1933, an additional one cent of the present gasoline tax is allotted for interest and principal on the highway notes and bonds.

Q. That $47,000,000 state highway bonds and notes to which you refer, and using round figures, does not include the thirty odd million dollars of county bonds issued by the several counties which the State has agreed to take over, does it?

A. It does not include the thirty odd million of dollars referred to by you. But the State has agreed to take that over. The State is reimbursing the counties and the State is assuming no general State liability as to payment of the bonds or the interest on those bonds.

Q. Then your agreement is between the State and the County and not between the holders of the bonds and the State?

A. The agreement is by Act of the legislature by direct reimbursement to the county.

[fol. 393] Q. In addition to the current revenues in Tennessee, the Highway Department has had available in recent years funds allotted by the Federal Government and funds obtained from the sale of notes and bonds, has it not?

A. That is true.

Q. You referred to the fact that between Perryville Bridge and Lexington, by re-locating the former highway that thereby seven grade crossings on the Perryville Branch were eliminated; is that true?

A. It is my information that there were seven eliminations by the re-location of that route.

Q. As a matter of fact, one round trip every 24 hours every day except Sunday is the train service on that branch, isn't it?

A. I don't know. At the present time I don't know what that train service is.

Q. When this Route 20 enters the Town of Lexington, it now goes over what is known as the Clifton Street crossing, doesn't it?

A. The Route 20 as it now enters Lexington goes under the underpass rather than over the crossing.

Q. But before the underpass was built, it went along Clifton Street and there crossed at grade the main line of the N. C. & St. L. R. R., didn't it?

[fol. 394] A. Yes, sir.

Q. Clifton Street at that place is perfectly level and perfectly straight, is it not?

A. Approximately so.

Q. And that grade crossing will not be eliminated by this new project, will it?

A. It will be for traffic on State Highway No. 20—traffic through Lexington along State Highway No. 20.

Q. What I mean they will not cross that——

A. But will not be eliminated insofar as the traffic going south from Lexington is concerned.

Q. The existing Clifton Street crossing physically will still be just the way it was before this underpass was built, will it not?

A. Yes, sir.

Q. You referred to the unsatisfactory alignment and grade as one of the existing—or former crossing—that is, Clifton Street, as one of the factors underlying your judgment in having this underpass built. What you had in mind was the grade and curvature prior to reaching the railroad tracks themselves, wasn't it?

A. Not altogether. Over the old route it was necessary to turn off of Clifton Street some little distance south of the crossing and make an abrupt turn to the east, which of course was a part of the original alignment of the old Parsons-Lexington Road.

[fol. 395] Q. That is what I meant—that the alignment that was subject to criticism was some distance from the railroad tracks?

A. The alignment subject to criticism extended all of the way from the court house in Lexington to the Perryville Bridge.

Q. But the fact is that Clifton Street itself where it crosses the N. C. & St. L. main line in Lexington is level and on a complete straight tangent for some distance on each side of the railroad track, is it not?

A. That is my recollection of it.

Q. Do you know how much the railroads of Tennessee pay to the several counties and cities in ad valorem taxes on specific levies for road purposes?

A. I do not.

Q. When you refer to the distance north and south of Highway 20 to Highway 1 and 15, you had in mind to indicate that between those main traveled trunk line highways that there were no rural roads at all, did you not?

A. I did not intend to convey that idea. However, the rural roads between those main highways are probably lateral roads rather than parallel to the main truck line highways.

Q. Do you know of any town of any size between Nashville and Jackson via Route 100, then Route 20, then Route 21, and Route 1, which hasn't the service of some road? In [fol. 396] other words, there are no isolated towns in that territory from some sort of road?

A. Until two years ago Lexington was absolutely isolated when bad weather conditions prevailed, and it was only about five years ago that Centerville was practically iso-

lated except for a secondary state highway running from Waverly on the north through Centerville to Hohenwald with a branch off to Columbia.

Q. Now, on this route we are discussing, that is No. 100, and then No. 20. The first town from Nashville is Centerville and then Linden and then Parsons and then Lexington, isn't that correct?

A. Those are the towns of major importance. There are several small villages along the route.

Q. For example, on Route 100 from Nashville to Centerville, is there even a village?

A. No.

Q. And from Centerville to Linden is there a single village?

A. There are some small settlements along that route—I don't know that they would justify being called villages.

Q. You referred to the fact, as you thought it was, that the N. C. & St. L. R. R. ran primarily east and west. As a matter of fact, the N. C. & St. L. from Lexington runs almost due north to Paducah, Kentucky and from Bruceton, [fol. 397] a little to the north, almost north, with exception of a few degrees west, to Hickman, Kentucky.

A. Possibly I am not qualified to discuss the location of the railroad lines in Tennessee. It has been my impression that the N. C. & St. L. is generally located along east and west lines. I get that from the fact that I have always considered that some of their primary railroads were connecting Memphis, Nashville and Chattanooga.

Q. You don't mean to suggest that the map of the N. C. & St. L. R. R. filed as Exhibit No. 1 to the original petition in this case is not correct?

A. Absolutely not.

Q. You stated in answer to a question of General Beeler that there had been some conversation with the Bureau of Public Roads of the United States about the advantage to the railroads of grade crossing elimination. Just with whom were those conversations had and what was said?

A. The various members of the Bureau of Public Roads have insisted from time to time on grade separation structures, on routes that involved the expenditure of Federal Aid funds, and while I can't recall an individual conversation relating to this particular point, one of their continuous contentions, in addition to the safety of highway traffic,

has been the lessening of the hazard from the railroad traffic standpoint.

Q. In filing your Exhibit No. 3, some time after your original examination, you added areas opened up by this new road not served by other roads. Will you file as Ex-
[fol. 398] hibit 2, to this cross-examination, a map which is the basis of that statement?

A. I will.

Q. Now, you don't mean that in those five areas that there are no other public roads at all?

A. No, I do not. It represents service with respect to the State Highway system alone. It is necessary that the State roads through the area shown on the map be fed from the counties by county roads.

Q. So the parentheses on your Exhibit No. 2 reading "Areas not served by other roads", means State roads—State highways—and not rural roads?

A. Yes sir, that is right.

Q. Mr. Baker, what will be the width or is the width now of this underpass under the N. C. & St. L. tracks?

A. This width through the underpass proper is 24 feet, The height is fourteen feet.

Q. Do you know the width of the Clifton Street in the Town of Lexington where it crosses the N. C. & St. L. tracks?

A. From my recollection of that street, I judge it to be about thirty feet wide.

Q. Do you know the number of trains operated over the main line of the N. C. & St. L. R. R. in each 24 hours where it crosses Clifton Street?

A. I do not—no sir.

Q. Do you know the time those trains run?

A. No, sir.

[fol. 399] Recross-examination.

General Beeler:

Q. Mr. Baker, in the past eight or ten years have there been any other funds available for highway construction arising from bond issues by the State except the $47,000,-000 and the $13,000,000 you have told about, but for highways and bridges?

A. The counties have issued bonds for practically all of the thirty million of dollars that has been contributed by the

counties to the State for participation in State highway construction—that is the thirty millions of dollars that is now being reimbursed to the counties.

Q. Are there any other State bonds that have been paid off and returned outside of the thirty million dollars and forty-seven million dollars that have gone into highway construction?

A. A million and a million and a half. There was approximately $1,800,000 issued in 1925 and repaid from current State revenue—of short term notes. And with that exception I know of no others.

Q. Will this highway of which the Clifton Street crossing is a part, be a part of the State Highway Department system or county highway system when it is completed?

A. That remains as a part of State Highway No. 22 from Lexington to Jacks Creek and enroute to Henderson.

Q. And is that road under State maintenance?

[fol. 400] A. It is under State maintenance and a part of the State highway system.

Q. Mr. Baker, just in a general way, for the purposes of this record, state what benefits have accrued to the State and to its citizens in the past ten or twelve years, from the program of highway construction that has been carried on and carried forward in the State?

A. In the past ten years the highway system, as it has been developed has made inter-county and interstate communication possible. Prior to that time it was impossible to travel between a great many counties and cities of this State. It is now possible at all times of the year to travel between any and all towns of the State, and a great many communities entirely off the State Highway system have year-round travel conditions such as they may be released to the balance of the world. The development of the State's volume of traffic has been very large due to the development of the State highway system.

Q. As a matter of fact, hasn't this highway construction of the State, not only in this State, but in sister States, developed to a point where a new order of things in the way of doing things, carrying on the affairs of the nation, has taken place?

A. That is true, and it has been a great benefit to rural communities and in transporting children to and from their [fol. 401] schools. Prior to ten years ago, I don't think

there was a school bus operating in the State. At the present time almost every county school is served by school buses, making it possible for the schools to operate throughout the school term.

Q. That has resulted in consolidation of various county schools into larger schools, better facilities, etc., for educational purposes, hasn't it?

A. It has.

Q. Do you think the people of Tennessee would be willing to surrender the highways considerably and go back to horse and buggy days?

A. I don't think so.

Re-examination.

Mr. Hall:

Q. State Bridge Bonds—the thirty million dollars of county bonds and the forty-seven million dollars of State bonds—all have as security for their ultimate payment a lien on all property within the political community which issued them, haven't they?

A. I would assume that they have. The thirty millions of dollars of county bonds were issued by the counties. The forty-seven millions of dollars of State notes and bonds for highway construction were issued by the State as were the $13,850,000 of toll bridge bonds.

[fols. 402-435] Q. Speaking of the benefit to the State from these roads, it is a fact that the value of real estate in Tennessee today as compared to ten years ago, when this program began its expansion, has dropped probably 80%, isn't it?

A. In about the same ratio that railroad bonds, I expect.

Further deponent saith not.

R. H. Baker.

Subscribed and sworn to before me this 30th day of November 1932. Mary E. Sherer, Notary Public. My commission expires 2/14/35. (Seal.)

[fol. 436] DEPOSITION O. F. GOETZ—Flied April 7, 1932

O. F. GOETZ, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. What is your official connection with the Highway Department of Tennessee, please?

A. Assistant engineer in charge of traffic.

Q. I will ask you to file as Exhibit Nos. 1 and 2 respectively, copies of the density maps which you have on the wall of Mr. Baker's office here, one being the average twelve-hour traffic, August 29, September 1st, 1929, and the other Exhibit No. 2, being the average twelve-hour traffic August 23-26, 1930.

(Maps so filed and marked.)

Q. Have you any later traffic density maps?

A. No, there was no traffic count taken in 1931.

Q. Do you want to make any statement or explanation of either one of those maps?

A. This 1929 map was primarily taken for the purpose of the study of foreign traffic and counts were only taken on key stations, whereas, on the 1930 map the full traffic count was taken.

[fol. 437] Q. In other words, Exhibit No. 1 was not intended to and does not include strictly local traffic?

A. No.

Q. Whereas, Exhibit No. 2 includes that?

A. Yes.

Q. Will you file as Exhibit No. 3 a map giving, in combination, the traffic counts for twelve hour traffic, August 19-22, 1926, and August 23-26, 1928?

A. Yes.

(Map so filed and marked.)

Q. No, on this map, Exhibit No. 3, wherever figures are used the top figure is for 1928 period and the lower for 1926 period, is that true?

A. Yes, sir.

Q. Now, does this Exhibit No. 3 include all traffic, local and foreign, as you call it, or only the foreign?

A. It includes all traffic.

Q. Mr. Goetz, in making an examination of these studies where have you got details you separate also the animal drawn vehicles from motor vehicles, do you not?

A. Yes, sir.

Q. And on the verage would run about one per cent for animal-drawn vehicles and about ninety-nine per cent for motor vehicles?

[fol. 438] A. That is true.

Q. And that was in 1928?

A. Yes.

Q. Will you file as Exhibit No. 4 to your testimony official map giving twelve hour traffic August 23-26, 1928, showing number of foreign vehicles?

A. Yes, sir.

(Map so filed and marked.)

Q. Now, when you say foreign vehicles you mean vehicles that come from other states?

A. Yes, sir.

Q. Now, at the time this map, Exhibit 4, was made that Route No. 100 from Nashville to Centreville and then Route 20 from Centreville via Linden to Lexington had not been completed, had it?

A. No, it had not.

Q. I will ask you to file as Exhibit No. 5 map showing twelve hours traffic count, dated August 23-26, 1928, showing all vehicles and then the number of trucks.

A. I will.

(Map so filed and marked.)

Q. This likewise was made before the new route No 100 from Nashville to Centreville and 20 from Centreville to Lexington was constructed?

[fol. 439] A. Yes sir.

Further deponent saith not.

O. F. Goetz, by W. Howard Fish, Reporter.

Sworn to before me when taken. W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 440] THE NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY

VS.

ROBERT H. BAKER, Commissioner

DEPOSITION O. F. GOETZ—Filed December 15, 1932

The witnesses, O. F. Goetz and R. H. Baker, whose testimony in chief had heretofore been given in this case were cross-examined by the defendants on November 30, 1932, in the office of R. H. Baker, Memorial Building, Nashville, Tennessee.

Present: Hon. Fitzgerald Hall, Vice President and General Counsel for the Nashville, Chattanooga & St. Louis Railway and Roy H. Beeler, Attorney General for the State of Tennessee, representing the defendants, it being agreed that said depositions might be taken in shorthand by Miss Mary E. Sherer, Court Reporter and Notary Public, and by her transcribed into typewriting under the original caption when said witnesses were examined in chief.

O. F. GOETZ recalled for cross-examination deposed as follows:

[fol. 441] Cross-examination.

General Beeler:

Q. Mr. Goetz, since you testified in this case in chief has the State Highway Department completed an additional traffic map showing the traffic count on the various highways of the State?

A. It has. The count was made on August 24th and 28th, 1932.

Q. Showing the traffic for two days?

A. For two days only.

Q. Will you please file a copy of that map as Exhibit 1 to your cross-examination?

A. I will so file it.

Q. Please explain in detail how this traffic count is made, how often it is made, and the purpose to be accomplished by making a map and anything else you consider pertinent in connection with the matter.

A. First counting stations are established, of which we had some 325 throughout the State, and among these there were 40 key stations. By this I mean the traffic count is taken for 24 hours instead of 12 hours as is the case at the stations which are not key stations. And the object of the traffic count is to obtain the traffic density on the various roads throughout the State. The traffic density is a primary feature in the design of any new road improvement. Other features of design are speed and vehicle width.

[fol. 442] Q. How often is this count made, the results of which are shown on this map?

A. This count is made every two years, although at some few stations the count is made every year.

Q. Now, do you know whether or not this particular highway, designated as Nos. 100 and 20, between Nashville and Memphis is entirely complete at the present time?

A. It is not completed.

Q. Is it thrown open for use as it is?

A. It is thrown open for use as a local road.

Q. What is to be done to it to complete the highway?

A. There is still some paving to be done, and then a new route from Henderson to Lexington—paving is from Parsons to Lexington——

Q. Anyway, the point I am getting at is—is this road thrown open as a through highway between Nashville and Memphis and being used as such now?

A. It is not being used as a through road from Memphis to Nashville nor a through road from Nashville to Jackson.

Q. Basing your answer upon your familiarity with traffic counts and the results to be obtained when a highway of this character is finished, state whether or not in your opinion traffic on Highways Nos. 100 and 20 will be increased or decreased when the highway is entirely completed and thrown open for use and what will be the per-

[fol. 443] centage of increase?

A. The traffic will materially increase by the completion of Nos. 100 and 20 to Jackson and still increase after the completion of Route 100 to Whiteville, which is on the route to Memphis.

Q. Will that be a material increase or a small increase?

A. Why I should say it would increase three to four times its present count. This will be true largely because of the fact that the traffic count is what is termed strictly local traffic. After the completion of the entire route it will serve

the local traffic and will serve other Tennessee traffic between the control points between Nashville and Jackson and Nashville and Memphis. In addition, the foreign traffic will materially increase—that is, by foreign traffic I mean out of State cars. It is the intention to establish Route 100 from Nashville to Memphis as a U. S. interstate route as an alternate route for the present U. S. Route No. 70. When this is done in all probability one-half of the foreign traffic or more will use this new route, leaving the present route No. 70.

Q. You refer to Route No. 70?

A. That is U. S. Route 70.

Q. And is that Route 1 on the State Highway System?

A. Which is Tennessee No. 1 on State System.

[fol. 444] Q. Please define the term "local" traffic as used by you in your testimony.

A. "Local" traffic—well, this is urban and county traffic; other Tennessee cars might be classed as foreign traffic—that is, foreign to that particular county.

Q. Please explain from your experience in connection with matters of this character a little more in detail the use to which highways of the type under consideration here what is meant by the term "local" traffic and "through" traffic, or in other words, interstate traffic and intrastate traffic or traffic originating on and off the particular highway in question.

A. By "intra-state" traffic which will use this new route I mean traffic originating in Nashville or Memphis with destination of Memphis or Nashville, originating in one point with destination at the other point. This particular road in all probability will take care of the major portion of the Nashville and Jackson traffic which is now taken care of by Tennessee Route No. 1.

Q. Basing your answer upon your judgment as an engineer and your experience in highway construction, state whether or not you consider the grade crossing separation at Lexington is necessary in order to afford public safety conditions, not only for the traveling public over the highways, but as well for passengers and crews on the trains operated across the highway?

[fol. 445] A. Under expected conditions I would consider this underpass crossing elimination a necessity. The volume of business on this road will vary in density along the various parts of this road. By that I mean the proxi-

mity of any city or town there is always a congestion. But when these cars reach the open road they become greatly separated from one another.

Q. In that connection would you anticipate more cars using the highway nearer the towns than you would using it out in the open country?

A. Well, you could take the same number of cars originating—having the same origin and the same destination, and upon reaching a town the cars in the rear will overtake the leading cars, and this congestion will hold through until they have passed through this particular town; then after leaving this town they will again become separated.

Q. Take Nashville, for example—in fact, say in cars using Route No. 1—this will be true clear into the city limit in Nashville?

A. That is true—principally—I refer mainly to through traffic.

Q. How many east and west through State highways are there across the State?

A. There are four routes principally, running east and west crossing this State.

[fol. 446] Q. Will you give the names or numbers of these highways and go somewhat into detail in regard to the respective territories, including the towns served by these highways, stating how and where the four different highways cross the Tennessee River, how far apart these crossings are, and how far away from the Kentucky-Tennessee line on the south are the nearest bridges on these highways?

A. On the south it is served by Tennessee Route No. 15 from Memphis to Chattanooga to the North Carolina State line, crossing the Tennessee River at Savannah, which is approximately 25 miles by highway north of the Mississippi State line. The next Route is No. 20 and 19 and 30 which form an east and west route originating on the Mississippi River opposite Osceola, Arkansas, and extending through Jackson, Columbia, Manchester and Athens, crossing the Tennessee River at Perryville.

Q. Is that a part of the route that is under consideration here in connection with this Lexington grade crossing separation?

A. It is. The next route is 104 and No. 1 and No. 9 extending from Dyersburg, to Nashville to Knoxville to New-

port to Asheville, North Carolina. That crosses the Tennessee River at Trotter's Landing at Johnsonville. The northern route is Route 21, 76, 56, 63 and 1, leading from Reelfoot Lake, Clarksville, Lafollette to Rogersville, into [fol. 447] Bristol, crossing the Tennessee River at Big Sandy, which is approximately five miles south of the Kentucky line.

Q. At these river crossings, state whether or not these crossings are on bridges?

A. That is true.

Q. Are they all four toll bridges?

A. All four are toll bridges.

Q. About how far apart up and down the river are these bridges?

A. The river distance from the Savannah to the Perryville Bridge is 55 miles; from the Perryville bridge to Trotter's Landing bridge is 34½ miles; from the Trotter's Landing bridge to the Big Sandy bridge the distance is 34 miles—these are all river distances. The airline distance from the Perryville bridge to the Trotter's Landing bridge is 28 miles; from the Savannah bridge to the Perryville bridge is 23 miles. I haven't got it for the other two bridges.

Q. How far is it across the State of Tennessee, approximately, where these bridges are located?

A. Aproximately 560 miles.

Q. North and South?

A. Probably 140 miles north and south—let me check that.

Q. What is the distance across the State east to west starting with Johnson County and winding up with [fol. 448] Memphis on the banks of the Mississippi River?

A. Approximately 600 miles.

Q. That is on the highway route?

A. Yes, sir, from Memphis to the North Carolina line—Johnson County.

Q. That is the extreme length along the highway?

A. That is right.

Q. Will you please state in a general way from your experience as to what extent the danger and hazard at grade crossings will increase with the completion of a road of the character of the one under consideration here?

A. The increase in danger and hazard due to the grade crossing and due to the completion of a road of this character primarily results because of the character of traffic which will use this road. By that I mean foreign traffic and intra-state traffic, which is not familiar with the local condition at this crossing.

Q. By local traffic as the expression is used by you, do you mean that local traffic that uses the crossing sufficiently and frequently enough to be familiar with the location of the crossing and all conditions that exist there?

A. By local traffic I mean the users who live in the immediate locality adjoining this crossing.

[fol. 449] Q. Taking into consideration all types and character of traffic that will use this highway, can you give us any idea in percentage or otherwise as to the extent of the increased hazard to be brought about with this road completed and thrown open for use?

A. That will largely be governed by the percentage of increase in the interstate or foreign traffic.

Q. And I believe you said that will increase how much?

A. Possibly three or four times as much.

Q. Do you mean in your use of the word "foreign" traffic and to include in that term, traffic originating outside of the State?

A. Originating outside of the State, and by intra-state traffic I mean traffic originating at a point far distant from this crossing—that is, from other parts of the State, either side—west, north, or south.

Q. What is your opinion about how much traffic will be diverted from Highway No. 1, U. S. 70, between Nashville and Memphis, over this new highway when it is finished?

A. I would say about three-fourths of the foreign traffic—out of State traffic, and possibly half of the interstate traffic, providing this route is completed from Memphis to Nashville and that the new route is given an interstate or U. S. route number.

[fol. 450] Q. Did you help to prepare and compile regulations for the Highway Department applicable to motor vehicle operations over the highways of the State?

A. I did.

Q. Will you file a copy of these regulations as Exhibit 2 to your cross-examination and explain them in any way you desire, giving the maximum weight of the vehicles that may

lawfully operate over the highways of the State, the character of the vehicles, the length over all, and anything else you want to, going into such detail as you care to in your discussion of these regulations?

A. I do so file such regulations as Exhibit 2 to my cross-examination. The pamphlet which is filed as an exhibit contains motor vehicle Acts and road laws and also regulations promulgated by the Commissioner of Highways and Public Works. But these regulations are established in accordance with Section 2704—Code of Tennessee 1932. The Acts shown in this pamphlet are, of course, Acts passed by different Legislatures. As to the regulation on weight—that is, gross weight allowable this limit was fixed or is fixed by statute. The regulations as to lengths were formulated or established by the Commissioner. On page 77 are given the restrictions on motor vehicle loads, sizes and weights. The height over all length, actual load and over-all length by combination are established by the regulations. The width, tire load—is established by legislative Acts. Following this page is given a description of various types of vehicles or combination of vehicles, together with the maxi-[fol. 451] mum allowable load on each particular combination.

Q. Please state directly into the record the maximum over-all length of any combination that is permissible under the law and the regulations.

A. The maximum over-all of any combination of vehicles is 45 feet.

Q. What is the maximum over-all length of any unit?

A. The maximum in any unit is 35 feet. A tractor and semi-trailer may draw in addition thereto one trailer—one extra trailer. A truck is only allowed to draw one other vehicle.

Q. Suppose you have got a tractor—what is designated as a semi-trailer—that would be a six-wheel combination, wouldn't it?

A. Six wheels combined, yes.

Q. The semi-trailer front end would be resting on the rear portion of the tractor, wouldn't it?

A. That is right.

Q. How much would that sort of combination be allowed to carry in all gross load, including weight of vehicle.

A. It would be allowed 40,000 pounds, with the further restriction of 18,000 pounds per axle. This axle restriction

makes it impossible to exceed any gross load of more than 36,000 or 37,000 pounds.

[fol. 452] Q. Can you give the approximate date when these regulations were promulgated by the Department?

A. Early in 1932.

Q. Do you know—state whether the railroad companies, especially the N. C. & St. L. Railway sponsored and undertook to have passed in the last session of the legislature certain bills or acts, regulating the use of the highways of the State by motor vehicles and taxing the vehicles, providing that such vehicles should contribute to the cost of grade separation?

A. They did.

Q. Is there anything else, Mr. Goetz, you can think of that would be of any help to the Court or lawyers, or anybody else?

A. I don't recall anything just now.

Re-examination.

Mr. Hall:

Q. Mr. Goetz, turn to your Exhibit No. 2 to your cross-examination, and commencing at the end of where the pages cease to be numbered, which is 76, you have a drawing there of a tractor—a semi-trailer and a trailer. All of which is permissible under the present laws and regulations in Tennessee?

[fol. 453] A. It is permissible provided they do not exceed the 45 foot limit.

Q. That calls for six wheels on each side, doesn't it?

A. Yes—that is a six-wheel job.

Q. Now, under Item "L" you have 60,000 pounds—that means when you have three units in combination, totaling 45 feet, with six wheels on a side, if the weight is distributed in accordance with the rules of the Highway Department, there may be a total gross weight—that is, of the vehicle and load combination—of 60,000 pounds, doesn't it?

A. That is true, provided that the axle spacing doesn't come under eight feet. When it comes under 8 feet the axle load is reduced from 18,000 to 9,000. It is impossible to operate such a combination. I might add under present day truck construction that the tractor and a semi-trailer practically reaches the allowable limit of length.

Q. That is because of the length of the semi-trailer?

A. That is right, I might further add that the American Association of State Highway Officials has recommended that, the 45 foot over-all length in combination vehicles and a 35-foot length in single vehicles, which conforms to our present regulations.

[fol. 454] Q. You referred to four east and west routes across the State of Tennessee. These four routes are all parts of what we call the technical State Highway System, are they not?

A. That is right.

Q. How many of these pass in part over Route 20 between Perryville and Lexington?

A. This Route 20 between Perryville and Lexington in all probability will serve some of the traffic taken off of Route 15 and Route 1, as well as the traffic on Route 20.

Q. The route from Nashville to Centerville is not completed, including the paving, is it not?

A. No, there is one strip in Davidson County—it is all completed or under contract—the contract section is in Davidson County.

Q. About how much is there of that?

A. Eleven miles.

Q. Now, from Centerville to Linden—that part of the road is completed, isn't it?

A. The road from Centerville to Linden is a gravel road and is on the program—next year's program for surface treatment.

Q. Will that surface be concrete?

A. No, it will be mixed in place, or asphalt or tar surface treatment.

[fol. 455] Q. Now, from Linden to Perryville Bridge, what is the condition of that road?

A. That road is paved—concrete paving.

Q. Now, from the Perryville Bridge into the town of Lexington—what is the condition?

A. That is gravel from the bridge to Parsons and there is a contract for paving from Parsons to Lexington. There is a local or the old road—also from Parsons to Lexington—which is gravel.

Q. The plan is to surface all that road, isn't it?

A. That is true.

Q. Now, this traffic count of which you spoke as having been taken in August 1932, did that undertake to separate traffic as between local, intra-state and foreign?

A. The only separation was of local traffic and foreign traffic.

Q. Have you the figures as to that?

A. Yes.

Q. What is the local travel between Linden and Lexington on this Route 20 as estimated by that traffic count?

A. The traffic station was located 2½ miles east of Lexington. Two counts were taken. One on Wednesday and another on Sunday. On Wednesday—Tennessee cars 162. Foreign cars 19. Tennessee trucks 59. Foreign trucks one. [fol. 456] Buses 4. Horse drawn vehicles 23.

On Sunday Tennessee automobiles 289. Foreign cars 13. Tennessee trucks 20. Foreign trucks none. Horse drawn vehicles 7. Giving total 264 for Wednesday and 329 for Sunday.

Q. How does that compare with the traffic counts made on the same days—first at Jackson, second at Memphis, and third at Nashville?

A. Now, Jackson—the count at Jackson, Route 20, was made three miles east of Route No. 1. On Wednesday the Tennessee cars 228. Foreign cars 13. Tennessee trucks 61. Foreign trucks 1. Horse drawn vehicles 10. On Sunday Tennessee automobiles 352. Foreign cars 11. Tennessee trucks 22. Horse drawn vehicles 7.

Q. That is only the traffic to and from Jackson on those days that moved over Route No. 1?

A. No, this is on Route 20—3½ miles east of Route No. 1.

Q. What was the traffic in the same two days on Route No. 1 out of Jackson?

A. That count was taken one mile east of Jackson. On Wednesday 657 Tennessee cars. 251 foreign cars. 203 Tennessee trucks. 7 foreign trucks. 3 buses. 30 horse drawn vehicles. On Sunday 794 Tennessee cars. 189 foreign cars. 33 Tennessee trucks. 2 foreign trucks. 2 buses, and 7 horse-drawn vehicles.

[fol. 457] Q. The figures for Nashville?

A. On Route No.—?

Q. First on Route 100 and then Route 1.

A. The traffic count on Route 100 was taken 12 miles west of Nashville. On Wednesday Tennessee cars 262.

Foreign cars 23. Tennessee trucks 70. Foreign trucks 11. Buses 4. Horse drawn vehicles 7. On Sunday Tennessee cars 754. Foreign cars 23. Tennessee trucks 34. Foreign trucks 2. Buses 4. Horse drawn vehicles 5.

Q. Route No. 1?

A. The count on Route No. 1 was taken two miles west of Nashville. On Wednesday 1976 Tennessee cars. Foreign cars 344. Tennessee trucks 404. Foreign trucks 29. Buses 11. Horse drawn vehicles 22. On Sunday Tennessee cars 2886. Foreign cars 343. Tennessee trucks 131. Foreign trucks 19. Buses 14. Horse drawn vehicles 4.

Q. Now on Sunday in the vicinity of towns and cities private passenger car travel is ordinarily more than on the other days, is it not?

A. It increases quite materially.

Q. That is largely pleasure travel, over relatively short distances, isn't it?

A. That is true.

Q. When this new route from Nashville to Centerville to Linden to Lexington and Jackson shall have been finally completed, that will act and it is designed to act as an alternate for Tennessee Route No. 1 which is U. S. Route [fol. 458] No. 70 between Nashville, Jackson and Memphis, won't it?

A. That is true.

Q. Now, in your opinion as a traffic expert, the travel on this new or alternate route when it shall have been completed, will very naturally reduce the traffic on U. S. Route 70, will it not?

A. It will.

Q. And it was designed to relieve that route of travel was it not?

A. That is true.

Q. Do you know the train schedules of the N. C. & St. L. over the existing grade crossing at Clifton Street in the town of Lexington on Route 20?

A. I do not.

Q. Do you know at what hours those trains run?

A. I do not.

Q. When you said in your answer to a question by General Beeler that in your opinion as a road expert that this grade separation was a necessity, you did not mean for

motor vehicles from territories other than those local to Lexington, did you?

A. Primarily yes. I might add that the local traffic, particularly on Sunday, will greatly increase after this road is completed. By that I mean local traffic around—from Lexington to Jackson for pleasure will go in the other direction and use this same road when it is completed.

[fol. 459] Q. That local traffic from Lexington to Jackson will not use this particular underpass, which is east of the town proper, will it?

A. That I can't say, but that is a supposition that is natural to expect—that they will use the new road.

Q. You understand that the underpass in question is east of the settled part of the town of Lexington and that there are no residences or business houses from that underpass east along Route 20, don't you?

A. That is true.

Q. When you spoke of congestion, you had in mind the inevitable congestion in cities where are street cars and traffic lights which would stop traffic, and the like, didn't you?

A. Primarily, yes. I meant the congestion of cars with relation and position to one another. By that I mean the cars will pass one particular point, frequently nearest in a city than they would on the open road.

Q. You don't mean to say that there is anything—for example, that would cause a car five minutes behind another car going west on Route 20 towards Lexington to overtake the advance car before it got to this underpass at Lexington?

A. That depends on the speed they traveled. But you take the same volume of traffic on the open road, widely separated, when it comes to a town and a city and entering, the back cars will overtake the cars ahead, and that will hold true until they leave the city, and then separate after they get out on the open road.

[fol. 460] Q. That congestion varies in accordance with the size of the city and town and the local traffic on the city streets?

A. That is true.

Q. These four east and west routes to which you referred, do they stop on the east and west boundaries of the State or do they connect up with highways in the adjoining States at those points?

A. They connect with the highways in adjoining States.

Q. When this Route 100 out of Nashville and 20 from Linden to Lexington is finally completed, how much more through travel, both intra-state and foreign, in your opinion, will be on that road than there is now?

A. I should say ten times.

Recross-examination.

General Beeler:

Q. In giving traffic count for the separation between Tennessee cars and foreign cars on both highways east of Jackson, one of these stations was nearer to Jackson than the other, wasn't it?

A. Yes, one was two miles east of Jackson on Route 1, and the other was on Route 20—east of Route 1.

[fol. 461] Q. By one of these counts at one of the stations show the total traffic that came out over Route 1 and that which came out over No. 20 to Lexington—it doubled up on that route, is that correct?

A. That is right—yes.

Q. I note you have some work sheets showing the separation as between Tennessee cars and foreign cars at these various stations where this traffic count was taken. I wonder if you can furnish us three copies of that for the record so as to show the tabulation, count and the separation as between Tennessee cars and trucks and foreign cars and trucks on the various State highways?

A. I can.

Q. Will you file those as Exhibit 3 to your cross-examination?

A. I will.

Q. In answer to one of Mr. Hall's questions you said that the construction of Route 100 and No. 20 was designed to relieve Highway No. 1—U. S. 70—of a portion of its traffic—was that the sole purpose in constructing that highway or was it likewise done to open up and develop that territory through which it runs?

A. And likewise designed to take care of local territory.

Further deponent saith not.

O. F. Goetz.

Subscribed and sworn to before me this 30th day of November, 1932. Mary E. Sherer, Notary Public. My commission expires 2/14/35. (Seal.)

[fol. 462] Deposition of T. C. McEwen—Filed December 15, 1932

The second witness, T. C. McEwen, being duly sworn, deposed as follows:

Direct examination.

General Beeler:

Q. Mr. McEwen, are you chief Highway Engineer for the State of Tennessee?

A. My title is—State Highway Engineer—yes.

Q. How long have you occupied that position?

A. I was appointed February 28, 1928.

Q. Prior to that time and for some years prior thereto, what business were you engaged in?

A. In the engineering business—I was Division Engineer for the Western Division from June 1921, and I was connected with the State and was employed by the State in 1916.

Q. Have you been with the State since 1916?

A. Yes, with the counties and with the State, in a dual capacity of engineer for the County and the State, with the exception of the time I was in the Engineering Corps, U. S. Army, during the World War.

Q. What technical training have you had to qualify you as engineer?

[fol. 463] A. Thirty years experience in location of railroads and highways, railroad construction and highway construction and maintenance. Since 1913 I have been in highway location, construction and maintenance work.

Q. Are you familiar with this highway between Nashville and Memphis by way of Nos. 100 and 20?

A. I am.

Q. Are you familiar with the Lexington underpass that is in issue in this case?

A. Yes.

Q. Was that underpass designed and located under your administration as State Highway Engineer?

A. It was. It was constructed by and designed by the railroad company and approved by the State.

Q. Are you familiar with the location of that highway throughout its entire course, Mr. McEwen?

A. Yes, I have been over it before it was constructed and afterwards.

Q. Basing your answer on your technical education as an engineer and practical experience and your familiarity with highway construction spread over a period of years about which you have testified, state whether or not in your opinion you consider the separation of that crossing at grade necessary on that highway?

A. Yes, I think it is the economical thing to do, both from a construction standpoint and the safety of the traveling public, and it should be done.

[fol. 464] Q. In making that answer, do you take into consideration not only the people who are traveling along the highway, but those that travel on the trains, including the train crews?

A. Yes, the safety of property and of the traveling public necessitate the elimination of this crossing. As to the amount and value of it, no man can tell. Any life saved at a grade separation is worth the price that is put out for the separation.

Q. Was that highway designed and is it being constructed for the purpose of carrying inter-state traffic, foreign traffic alone, or for the purpose of carrying all traffic?

A. Primarily for the purpose of the benefit to the citizens of the State of Tennessee, first, and interstate, intrastate and all kinds of travel.

Q. What has been your experience and observation with reference to the increasing traffic on a highway of this character when completed over what it was formerly?

A. Well, I might give you an illustration: I remember a good many years ago on Route 1 at Trotter's Landing, the Commission ordered us to make a traffic count, and at that time before No. 1 was completed, there were 43 vehicles passing that point, and today there is seven or eight times, or maybe twelve times, that amount. In my opinion, it will greatly increase.

[fol. 465] Q. Will it increase local traffic originating in that territory as well as traffic originating outside, which might be termed "through" traffic?

A. It has been the case in all cases where roads have been constructed. I might give you a specific case: I was County Engineer in a county once. I recall there only three motor vehicles in that county before the good roads

were built, and after that it jumped up, I guess, to 2,000 vehicles, or more. It will increase—yes.

Q. Something has been testified to by some of the witnesses for the railroad company in this case as to the effect that the territory through which this highway is projected and conditions obtaining in that territory do not justify the construction of a highway of this character through the territory? Are you familiar with the territory so as to be able to give us any information along that line?

A. I am fairly familiar with the territory. Routes Nos. 100 and 20 go through a territory where the Commissioner was entirely justified in building a road. The people living along this route are citizens of Tennessee, and, as such, are entitled to road service by the State, and I do not see why there should be any discrimination. In my opinion, Route 20 and 100 is as good a territory to be served as Route 1, which follows the N. & C. Railroad from Nashville to Waverly and to Bruceton.

[fol. 466] Q. Do you know whether or not there has been any demand at any time *for* the citizen- of that territory for a road of this character.

A. Yes, there has been a demand ever since I have been connected with the Highway Department as a Division Engineer in west Tennessee. There was a demand from the people from the Tennessee River, back to Jackson and to Nashville and adjoining territory. Since I have been State Highway Engineer, the demands have been on the Commissioner and on every member that could have any influence with the Department that this route be built from citizens of Centerville, Linden, Perryville, and Decaturville, Henderson, and all through to Lexington, that is, into Jackson.

Q. State whether or not in your opinion the location of this road—its construction along that location—is an unwise and improvident location from an engineering standpoint and from a standpoint of serving the public, or would you consider that the Commissioner exercised proper judgment in locating the road and in providing for its construction?

A. In my opinion the road is properly located. There was sufficient evidence to warrant the construction of a road from here to Linden by way of Centerville. He exercised proper discretion and good engineering judgment and ability in projecting this road.

[fol. 467] Cross-examination.

Mr. Hall:

Q. You don't mean to suggest that the development of the territory on Route 100 between Nashville and Centerville is fairly comparable with the development on Route 1 from Nashville to Jackson, do you?

A. There are not as many people on Route 100 now as there are on Route 1, but prior to the construction of the railroad—before there was any railroad development there it was practically the same proposition.

Q. How do you know when that road was built—it was built before you were born?

A. That is my opinion—not my job—I am told all that I know.

Q. What I meant is that on Route 1, practically all the way from Nashville to Jackson there is one little community after another of varying sizes, whereas from Nashville to Centerville there isn't a town or a village, is there?

A. There are communities—Linton, Wrigley and Bon Aqua two miles from this road.

Q. Wrigley is the industrial development of Centerville, isn't it?

A. No, it is not in Centerville.

Q. It is the end of the N. C. & St. L. R. R.—Centerville Branch, isn't it?

[fol. 468] A. No, it is on the N. C. & St. L. R. R.

Q. This Route 100 doesn't go through Wrigley?

A. Within a mile of Wrigley—served by what was the route located within a mile, approximately—was put there to serve that town.

Q. Do you know anything about the assessable value of the property along Route No. 1, between Nashville and Jackson, as between the assessable value between Centerville and Nashville on Route 100?

A. No, sir, I do not.

Q. You spoke of the increasing traffic that is going to be on this Route 100 and Route 20—where is that coming from?

A. Increase of local and of through traffic—from the community adjacent to it and from that adjoining. It has always been the case on all roads which have been made

smoother and easier for traffic that they are used. I don't think this will be an exception to the rule.

Q. What sort of local traffic, in your opinion, will develop by reason of the completion of this road?

A. Well, the people who prior to the building of the roads didn't have cars will buy them, as has been the case heretofore, and they will utilize them for pleasure and commercial purposes.

Q. To what extent in your opinion will there be an increase in local traffic on Route 20?

A. Local. I wouldn't want to make any estimate of the conditions at this present time, but I would say five or six [fol. 469] times just offhand.

Q. What is the volume of local traffic now?

A. I haven't investigated that condition. Our traffic engineer, Mr. Goetz, has made a study of that, and you can get that.

Q. What extent, in your opinion, will there be an increase in inter-county and intra-state and interstate travel over this new road?

A. I imagine eight or nine times as much. That is only a guess, however. You can't tell what is going to happen in the future at the present time.

Q. You estimate that 80% to 90% increase eventually of that character you just mentioned?

A. I didn't make that statement. I said it would increase eight or nine times the amount. I don't know just what percent the total amount of the inter-county, inter-state and intra-state would be over the local. I should think 75% or 80% may be.

Q. You mean that when it is finally done—that 75% or 80% will be of that character.

A. Possibly—we have gotten the traffic count on this—it will show just what it is now.

Further deponent saith not.

T. C. McEwen.

Subscribed and sworn to before me this 30th day of November, 1932. Mary E. Sherer, Notary Public. My commission expires 2/14/35. (Seal.)

[fol. 470] Deposition of J. E. Moreland—Filed Dec. 15, 1932

The third witness, J. E. Moreland, being duly sworn, deposed as follows:

Direct examination.

General Beeler:

Q. Mr. Moreland, you are an engineer?
A. Yes, sir.
Q. Tell us about your qualifications, your educational qualifications and practically experience you have had to qualify you?
A. Three years in the Engineering School, University of Tennessee, and I have spent the last twenty-one years as engineer on highway work of various kinds.
Q. Are you connected with the Highway Department of the State of Tennessee at the present time?
A. Yes, sir.
Q. How long have you been connected with the State?
A. Fifteen years.
Q. What is your official designation and what particular work are you assigned to at the present time?
A. My title is Assistant State Highway Engineer in charge of Design.
[fol. 471] Q. How long have you been serving in that capacity?
A. Three years.
Q. Do your duties require that you perform services all over the State?
A. Yes, sir.
Q. Are you familiar with the location of Highway No. 100, connecting with No. 20, going on west from Nashville to Jackson on into Memphis?
A. Yes, sir—in general.
Q. Who was locating engineer on that road?
A. It was located by several different men—Mr. C. R. Watkins located through Williamson and Perry Counties, and I don't remember who located across Decatur and Chester Counties—the engineer employed in the Fourth Division.
Q. Are you familiar with the location of the Lexington underpass on that route?
A. Yes, sir.

Q. State whether or not in your opinion as an engineer and from your familiarity with highway construction, the construction of that underpass and the elimination of the grade crossing was necessary not only as a matter of safety to the traveling public along the highways but to the passengers and crew on the railroad trains?

A. Yes, sir, I feel that it was necessary for the safety of the users of the highway, and the safety of the train [fol. 472] crews and users of the railroad would be an additional reason for having the elimination made.

Q. Do you consider the expenditure of the money that it takes to eliminate a grade crossing and construct this underpass an unwise and improvident expenditure or do you consider that the Commissioner used very good judgment from an engineering and highway standpoint in requiring the separation?

A. I consider it was a very wise expenditure. I feel sure the State has spent more money other places to eliminate less hazard.

Q. What other reason, if you have any, can you give as to the necessity for this grade crossing separation? Tell why it was necessary and all about it.

A. Well, it was necessary on account of safety, and it will avoid some inconvenience probably. The existing crossing was near the freight and passenger stations and was within the radius in which trains often switched back and forth, and I presume there was some inconvenience caused by the road being blocked at times.

Q. Do you mean that the Clifton Street crossing is nearer than the underpass is to the freight and passenger stations in Lexington?

A. Yes, nearer to it, and I have seen trains switching as far out as the underpass at that location.

Q. Where was this road located at this particular place and why—coming through Lexington?

A. Because it was the most desirable location, and my reasons for saying that are two-fold. This underpass is on [fol. 473] the street which is an extension of the road from Jackson. In other words, the road from Jackson now runs straight through the town, and after it passes the underpass instead of having it at right angles and other turns, and being located at this point it was possible to locate the entire road to Parsons and on to Perryville without a railroad being crossed.

Q. I understood you to say that the road coming into Lexington from the west from Jackson projects right on to this underpass and without any turns near the town, is that correct?

A. Yes, sir.

Q. And that is a considerable advantage?

A. Yes, sir, and it was also a suitable place for an underpass because there was a fill under the railroad and there was no undue expense attached to the construction such as you might have if it was a large amount of excavation and bad drainage conditions.

Q. Did you have any high retaining walls of consequence to build to make this separation.

A. Nothing of an unusual character—the structure under the railroad is about all that was built there.

Q. What makes you think, if you do think, that part of the traffic between Nashville and Jackson to Memphis over Highway No. 1 will now be diverted to this new highway, when it is finished?

[fol. 474] A. I believe that a part of it will because this road is of more modern design and can be traveled more quickly and with less discomfort—there is less curvature on this new route than on Route No. 1 between Nashville and Jackson—there are at least two sections which we consider out of date and which are annoying to travel on. The new route, composed of Route 100 and Route 20, is modern for the entire distance and is more pleasant to travel over, and I believe the trip can be made quite a little quicker.

Q. On this highway, after completed, will it, in your opinion, have increased local traffic originating along the highway or will the increase in traffic be due entirely or in the main to what you term through traffic?

A. I believe the biggest part of the increase will be through traffic, but we ordinarily expect a certain percentage of increase in local traffic as time goes on, but I doubt if the increase due to the improvement in the road in local traffic will be as much as the increase in through traffic —by through traffic I mean both interstate and intra-state.

Q. State whether or not in your opinion and from your observations, people travel more when they have good road service than they would otherwise—I mean by that—the same people.

[fol. 475] A. Yes, I am sure they do. I have noticed the effect on the traffic when a fairly good road is temporarily torn up and a detour of lower character is inserted. The traffic drops off quite a little bit.

Q. Can you give us an idea or an opinion as to what extent traffic will be increased over this highway when it is completed, taking into consideration all types of traffic?

A. Some time ago I made an estimate that approximately one-fourth of the through traffic now passing over Route No. 1 at a point directly north of this route would be diverted to Route 20, and I believe that in figures would amount to approximately 150 vehicles a day.

Q. Is the danger at grade crossing increased in direct proportion to the number of vehicles traveling over those crossings?

A. I should say that it would be. The chances for train and vehicle meeting are certainly increased.

Q. If you have twice as many railroad trains operating over the crossing one day as operate over it the day before, would that danger double?

A. It would seem so to me.

Q. Was the location of this underpass approved by the N. C. & St. L. R. R. officials?

[fol. 476] A. That is my understanding. I understood, of course, they were protesting the building of it, taking into consideration they were required to build it.

Q. Was this location at this site approved by them.

A. I have good reason to believe that it was. I have seen written statements that it was.

Q. Are you sufficiently familiar with that situation down there to know whether or not the location of Clifton Street could be changed or the traffic over that street could be diverted in any way to use the underpass, or is the underpass too far away from that location?

A. Some of that traffic using Clifton Street probably could be diverted. I doubt if the people of Lexington who live on that side of the railroad would go around, but it would be possible to bring our Route 22 through the underpass. That would still require them to cross the branch line, but they could avoid crossing the main line. People who live on the opposite—south—side of the railroad along Clifton Street and other connecting streets will probably object to being routed around further.

Cross-examination.

Mr. Hall:

Q. When you said the N. C. & St. L. approved the location you simply meant that if there was to be an underpass [fol. 477] our engineers *through* it could be built at the place it is more economically than elsewhere?

A. That was the substance of what I was told.

Q. You speak of elimination of a grade crossing. There will be no grade crossing elimination by this project, will there?

A. In one sense there is. The location of Route 20 would have been right where it is, I believe, regardless of how they cross the railroad.

Q. The point I am asking is that no existing grade crossing is going to be changed?

A. Not that I know of.

Q. Prior to the construction of Route 20 or the project of Route 20 through the town of Lexington, the traffic had to go through the court square and the main part of the town to pass on towards the Perryville bridge, didn't it?

A. Yes, sir.

Q. Now, this re-alignment of Route 20 will enable those using the same to miss the congestion in the town of Lexington if they so desire, won't it?

A. Practically all of it—it passes along one side of the court square, but only one instead of two.

Q. Do you know how many regularly scheduled trains go over the main line of the N. C. & St. L. at this place?

[fol. 478] A. I have an idea how many passenger trains go over it but don't know how many freight trains do.

Q. How many?

A. I know of four trains a day—I believe there are two more.

Q. Do you know what times they run?

A. Not exactly.

Q. Do you know what switching there is over the Clifton Street crossing?

A. No, sir—the only thing that I know is that I have seen switching going on there on at least one occasion.

Q. Do you know how many industries there are between the Clifton Street crossing, within the City, in the direction of Nashville?

A. No, sir—not all of them. There are two very close to the underpass.

Q. Both of these are oil companies?

A. Yes, sir.

Q. Did you ever hear of that crossing—that is, the Clifton Street crossing being actually blocked by a train or a cut of cars so that vehicles had to stop on the Clifton Street crossing?

[fol. 479] A. No, sir.

Q. Did you ever hear of an accident between a railroad train or a cut of cars and a vehicle on the Clifton Street crossing?

A. No, sir—I am not very well acquainted there and haven't been down there in that territory much.

Further deponent saith not.

J. E. Moreland.

Subscribed and sworn to before me this 30th day of November, 1932. Mary E. Sherer, Notary Public. My commission expires 2/14/35. (Seal.)

[fol. 480] In Chancery Court of Davidson County

[Title omitted]

Agreement & Stipulation of Counsel—Filed March 26, 1932

By agreement the attached questions and answers by Mr. R. E. Boykin of the Bureau of Public Roads of the United States, dated March 8, 1932, may be considered as evidence for complainant in the above styled case.

All questions of relevancy and competency are expressly reserved to the hearing.

Fitzgerald Hall, Counsel for Complainant. Roy H. Beeler, Counsel for Respondents.

[fol. 481] United States Department of Agriculture,
Washington, D. C.

In your reply please refer to file No. B-1.

March 8, 1932.

Mr. Fitzgerald Hall, Vice President and General Counsel,
The Nashville, Chattanooga & St. Louis Ry., Nashville,
Tennessee.

Dear Sir: I am in receipt of your letters of February 9 and 29 stating that you have a test case in Tennessee involving the validity of the grade separation act of that State; that the Commissioner of Highways of Tennessee has ordered the N. C. & St. L. Railway to pay one-half of the cost of an underpass within Lexington on Section A of Tennessee Federal Aid Project No. 227, and you submit a list of seventeen questions relating to Federal aid in the construction of highways to which you request answers.

Without repeating the questions they will be answered in the order in which they are given in your letter, as follows:

(Note.—For convenience the Questions are copies herein.)

[fol. 482] Q. 1. Since the passage of the Federal Aid Act, Title 23 of the U. S. Code, how much each year has been expended by the federal government on public roads?

A. Expenditures from Federal aid highway funds by fiscal years from 1917 to 1931 are shown on the enclosed sheet marked "Exhibit A."

Q. 2. What per cent of the public roads of the country are represented by these so-called federal aid roads?

A. The Federal Highway Act approved November 9, 1921 (42 Stat. 212) provides that the initial Federal aid system shall not exceed seven per centum of the total highway mileage of each State as shown by the records of the State Highway Department at the time of the approval of the Act.

Q. 3. What was the total cost of all such federal aid roads, that is the part contributed by the federal government and all others?

A. The total cost of all Federal aid highways, including those completed, under construction and approved for construction, as of January 1, 1932, amounted to $2,573,295,250. The Federal aid alloted amounted to $1,126,495,912.

Q. 4. What has been the total cost of public roads and streets, including bridges, in this country since the passage [fol. 483] of the Federal Aid Bond Act.

Q. 5. How is it determined whether a particular road will be made a federal aid road and what are the factors which go into the determination thereof?

A. The Federal aid system of highways is a connected and correlated system selected and designated by the State Highway Departments and approved by the Secretary of Agriculture pursuant to provisions of Sec. 6 of the Federal Highway Act approved November 9, 1921. Under the law all Federal appropriations must be expended on this system.

Q. 6. On all federal aid projects does the Bureau of Public Roads pass upon the details of alignment and construction?

A. Yes.

Q. 7. Has the Bureau of Public Roads a general standard for the construction of federal aid projects, admitting of course, of variations to meet peculiar local conditions?

A. Standard specifications for the construction of Federal aid highways are generally prepared by the State Highway Departments and submitted to this Bureau for approval. If approved they govern, although these specifications may be varied from time to time to meet the needs of particular projects. The latest revision of the standard specifications for Federal aid roads in the State of Tennes- [fol. 484] see was approved by this Bureau January 20, 1928. Certain revisions of these specifications are now before the Bureau for consideration and approval.

Q. 8. What is the general policy of the Bureau of Public Roads, as it relates to federal aid projects, to avoid grade crossings with railroads by re-alignment of roads or grade separation projects?

A. It is the general policy of this Bureau to avoid railroad grade crossings wherever practicable or feasible either by grades separations or by relocation of the highway. Many factors enter into the consideration of requiring grade separations, such as volume of traffic on both the highway and the railroad, cost of elimination structures, etc. Both the States and Federal Government realize that it is out of the question to eliminate all railroad grade crossings at this time and that reasonable program for such eliminations should be adopted whereby separation of the grades may be

accomplished gradually and in the order of their importance from the standpoint of safety for travelers on both the railroads and highways. A number of States adopted such programs.

Q. 9. After agreement between the Bureau of Public Roads or the Secretary of Agriculture with the state authorities for federal aid to a given project, do representatives of [fol. 485] the Bureau of Public Roads pass upon the specifications for such projects and check the work done before actual contribution of federal government going to contribute thereto?

A. The project between Linden and Lexington, Tennessee, on State Highway No. 20 is a Federal aid project, identified on the records of this Bureau and those of the State Highway Department as Tennessee Federal aid project No. 227, Section "A". The agreement between the Highway Department and this Department provides for the construction of 9.564 miles, including nine bridges of more than twenty feet clear span. The total estimated cost of the project is $201,653.19. The Federal allotment being $100,826.59, or about fifty per cent of the estimated cost.

Q. 11. Will you please file as Exhibit No. "1" to your answers a copy of the contract for the portion of said highway project as it approaches from Linden, Tenn., to the town of Lexington, Tenn.?

A. An original signed copy of the project agreement referred to in No. 10, above, is on file with the State Highway Department of Tennessee. A copy should be obtained from that Department.

Q. 12. Will you please file as Exhibit No. 2, the report or reports of the engineers and other representatives of the Bureau of Public Roads of the federal government with [fol. 486] relation to this project?

A. Attached hereto is a copy of a memorandum prepared by Mr. Guy L. Smith, Senior Highway Engineer of this Bureau, under date of March 28, 1930, relating to Sec. "A" of Tennessee Federal aid project No. 227, also copy of the report referred to therein which was prepared by Mr. Smith, January 23, 1930, marked, respectively, Exhibit "B", and Exhibit "C".

Q. 13. Under the Post Office Appropriations Act of June 19, 1922, being paragraph 3 of Section 4 of the 42 State 660

can and does the federal government contribute to the cost of grade separation projects?

A. Yes, the Federal Government can and does contribute to the cost of grade separation projects, if they are on the Federal aid highway system provided the Highway Department of the State requests cooperation in its construction.

Q. 14. If such cases must the specifications for such projects have the approval of the Bureau of Public Works or the Department of Agriculture?

A. Yes.

Q. 15. Since the passage of this act of June 19, 1922, how [fol. 487] much has the federal government contributed to grade separation projects within the State of Tennessee?

A. Since the passage of the original Federal Aid Road Act approved July 11, 1916 to June 30, 1931, a period of approximately fifteen years, the State Highway Department of Tennessee, in cooperation with this Department has eliminated seventeen crossings of highways and railroads by means of grade separations. During the same period ninety two crossings have been eliminated with Federal aid by relocating the highways.

Q. 16. Have the state authorities up to date asked the federal government for federal aid towards the costs of the construction of this proposed underpass, at Lexington, Tennessee?

A. The State Highway Department of Tennessee has not, to date, requested Federal aid on the proposed underpass in Lexington, Tennessee.

Q. 17. If, hereafter, the Highway Department of Tennessee, in the proper manner, makes this request will federal aid be given and, if so to what extent and under what conditions?

A. We cannot state positively that Federal aid would be granted on the proposed underpass at Lexington if proper request were made therefor by the Tennessee State Highway Department, but no reason appears now why such aid might not be granted. In fact, the project agreement betweeen this Department and the State Highway [fols. 488-495] Department provides that such grade separation structure shall be built. Assuming that such structure would be of more than twenty feet clear span, Federal aid could be granted in any amount requested by the

State not in excess of fifty per cent of the cost. If, however, the structure should be of twenty feet or less clear span, it would be legally eligible only as roadway instead of bridge construction and Federal participation herein would be limited to not exceed the rate of $15,000 per mile.

Very truly yours, K. E. Boykin, Acting Chief of Bureau.

Enclosures.

Received March 10, 1932. Law Dept. of N. C. & St. L. Ry.

[fol. 496] Deposition of George W. Pearson—Filed April 19, 1932

[Title omitted]

The depositions of George W. Pearson and W. K. Tate, witnesses for the complainant, taken in the office of Gen. Roy H. Beeler, by agreement, on the afternoon of April 15, 1932. All formalities as to notice and otherwise are expressly waived. All questions as to competency and relevancy, are expressly reserved to the hearing.

George W. Pearson, being first duly sworn, testified as follows:

Direct examination.

By Mr. Fitzgerald Hall:

Q. Mr. Pearson, where do you live?
A. Linden, Perry County, Tennessee.
Q. How long have you lived there?
A. I was born and reared there.
Q. What is your business?
A. Lawyer and banker.

[fol. 497] Q. State whether or not that part of the state highway project from Centerville, Tennessee, to Linden, Tennessee, was designed for through commerce, or for local use, giving in some detail the facts and the reasons for your answer?

A. I have never had any other understanding except that it was designed strictly for through transportation. It was to, as I have always understood it, to shorten the lines

between Memphis and Nashville, which I understand from the engineers it does shorten it considerably, and is as near a straight road I suppose as is possible for them to build.

Q. I show you here a state highway map, which is exhibit number five to the bill of complaint, and point out to you on this highway map the towns of Centerville and Linden, and I will ask you whether this new road, which is highway 100, runs practically in a straight line from Centerville to Linden?

A. Practically a straight line, there is only one curve in it of any consequence, and that is where they attempted to kind of curve around and go near Wrigley.

Q. Between those two points of Centerville and Linden, does this highway 100 run through any city or town or village?

A. None whatever.

[fol. 498] Q. There has been for sometime a road designated as number 50 from Centerville to Linden, has there not?

A. Yes, sir.

Q. That is on a considerable curve as distinguished from a straight line between those two points, is it not?

A. Yes, there is a difference of at least six miles in the two roads between Linden and Centerville.

Q. On the old road, Number 50, there are several small towns, are there not?

A. Yes, sir.

Q. Will this existing road, fifty, have to be maintained in the future, in addition to this straight route 100, in order to serve those communities?

A. They could not otherwise be served, unless it was maintained.

Q. Referring now to highway number one hundred between Linden and Perryville, or the Tennessee River and points west; was that part of this road designed for local or through travel?

A. Through traffic.

Q. There was previously an old road between Linden and Perryville, was there not?

A. Yes, sir.

Q. And parts of that road will have to be maintained to serve the local communities?

[fol. 499] A. Yes. There is a distance of about two miles that would have to be maintained for local service so that

traffic could reach Blount's Landing on the Tennessee River, which is now probably the principal landing in Perry County; and also to reach the town of Perryville which would be in that case reached by ferry, the bridge across Tennessee River being, on I would say between half a mile and a mile north of the town of Perryville, and coming into that old road there near Blount's Landing and going on down to Perryville, there is a county road through a populous section of the county that would have to have that road in order to have that particular outlet.

Q. In other words, the new route, number one hundred, does not take care of that local traffic.

A. No, it does not touch Blount's Landing near the town of Perryville, which is on the railroad.

Q. Going back now a minute to the road number fifty, between Centerville and Linden, that was a gravel road, wasn't it?

A. Yes, sir.

Q. To what extent was and is the travel on that road local or through travel?

A. Oh, it is practically altogether local. The only through traffic, I would feel safe in saying, that ever travels that road is when somebody just incidentally comes through now and then, you know going over a new route; it is my understanding that no other traffic is routed that way at all.

[fol. 500] Q. No through buses or trucks regularly run over that highway fifty between those two points, do they?

A. No, sir, no through traffic of that character at all.

Q. Now that existing road serving those little towns is adequate for the needs of that community, is it not?

A. Undoubtedly so.

Cross-examination.

By Mr. Roy H. Beeler:

Q. Mr. Pearson, you don't mean to be understood as saying that this new road through Centerville, Linden, Perryville, Lexington and on west, will not have any local traffic over it, do you?

A. No sir, it naturally will have local traffic.

Q. And it will afford an outlet for all local traffic that can get out to it, will it not, that can get out from each side?

A. Yes, sir, it will do that.

Q. So I can get it located, where is Blount's Landing from Perryville?

A. Blount's Landing is about a mile south, or up the river, from Perryville, and on the opposite side of the river.

Q. That would put it in what county?

[fol. 501] A. Perry County.

Q. And Perryville is in Perry County?

A. In Decatur County. On the west side of the river.

Q. When you say Blount's Landing is up the river, that means toward the Alabama line?

A. Yes, that means south, towards Alabama, yes.

Q. Now the new road crosses the Tennessee River between a half and a mile down the river, or north from Perryville, doesn't it?

A. I would estimate it to be that distance, I never measured that, but it is approximately that.

Q. And there is a new bridge, state toll bridge, constructed across the river at that point?

A. Yes, sir.

Q. And from the west end of that bridge there is a road up the river and practically parallel with the river to Perryville, isn't there?

A. Yes, there is a way to go, but the last time I was over that road it wasn't in very good condition and then it was supposed to be maintained; I don't know how it is now; that is the way for Perryville to reach the bridge, yes.

Q. Now there is a ferry across the river at Perryville, isn't there?

A. Yes, sir.

Q. And that connects with the old road there?

A. Yes, sir.

[fol. 502] Q. Are you familiar with that old road that ran from Perryville to Lexington, before the construction of the new road?

A. I have been over the road and of course have some familiarity with it, having been over it.

Q. Did you ever see any part of it under water in flood times, so it could not be traveled?

A. No, I never saw any part of it under water, that is as far as I could answer.

Q. Now when the new road is finished coming out of Nashville, through Centerville, Linden, almost through Perryville, on through Lexington, west to Memphis, a high

type road is built there, it is your understanding that will shorten the distance considerably?

A. Yes, sir.

Q. And isn't it your opinion too that traffic, whether it is through or local, will be increased very considerably between Memphis and Nashville on account of the construction of that new road?

A. There is no question but what through traffic would be increased to a very great extent; I wouldn't say unless the question was put more specifically as to whether or not there would be a marked increase of local traffic.

Q. You mean by that, I take it, whether there would be a marked increase, compared with the traffic now existing on the same road?

A. Yes.

[fol. 503] Q. How nearly does that new road parallel the old road from the end next to the river west to Lexington?

A. Well, practically all the road from Perryville to Lexington is north of the old road, very near it, as I remember it in some places and just a little farther off in other places, but no great distance separating them anywhere.

Q. Now does it in the main, the new road I am talking about, parallel the N. C. & St. L. Railway track?

A. Yes, sir.

Further deponent saith not.

George W. Pearson, by J. C. Morelock.

Sworn to before me when given this April 15, 1932.
J. C. Morelock, Notary Public. (Seal.)

(Notary fee, $1.00, paid by complainant.)

[fol. 504] Depositions—Filed April 7, 1932

[Title omitted]

The deposition of W. J. Long, W. R. Holland, W. R. Dennison, H. M. Johnson, L. T. Fielder, F. J. Azbill and J. R. Davis, witnesses for complainant in the above case, taken by agreement on the 31st day of March 1932, at Lexington, Tenn., in the presence of counsel for both complainant and defendants in the presence of the defendant R. H. Baker,

the caption, notice, certificate and all formalities being expressly waived.

All exceptions for competency, relevancy and materiality of testimony are reserved.

[fol. 505] W. R. Holland, being first duly sworn, deposed as follows:

Q. Please give your name, age and residence?

A. W. R. Holland, age 52, Lexington, Tenn.

Q. What is your relation to the City of Lexington?

A. Mayor of the City.

Q. How long have you been the City's Mayor?

A. Ten years—Eleven I guess now.

Q. What did the City authorities have to do with the changing of the alignment of Route #20 on Clifton Street to the proposed right of way under the railroad tracks?

A. Nothing.

Q. Has the City paid anything or been asked to pay anything towards the cost of constructing this underpass?

A. No, sir.

Q. Did the City have anything to do with determining the right of way or any other details of this proposed underpass?

A. No, sir.

Q. Will the underpass and the re-alignment of Route #20 into and through Lexington help traffic problems and conditions through Lexington?

A. Yes, sir, it would help, I think it would help. Any division of traffic would help traffic problems.

Q. Would it help to a considerable extent or small extent?

A. Local traffic it wouldn't help to any extent, just the local traffic wouldn't be going down through this under- [fol. 506] pass, but it would divide the traffic to such an extent that the through traffic — go under the underpass and wouldn't all go over Clifton Street crossing.

Q. To what extent will the present traffic on the Clifton Street crossing be changed by the re-routing of said Route #20 and the new underpass?

A. Now, the present traffic it would cut about half of the present traffic off of Clifton Street.

Q. State whether or not a considerable portion of that traffic taken off of Clifton Street would be through traffic that you referred to?

A. Yes, sir.

Q. To what extent will the local traffic now using the Clifton Street — be changed to the underpass?

A. Won't be changed any I don't think at all.

Q. Is the City of Lexington building this portion of Route #20, not counting the underpass, or is this being done by the State Highway Department?

A. Being done by the State.

Q. Did the City of Lexington have anything to do with the character of construction and financing of Route #20 as it passed through Lexington?

A. No, sir.

Cross-examined:

Q. Mr. Holland, when you say that the construction of this underpass will not affect or practically not affect the local traffic at the Clifton Street crossing, you mean by local traffic such traffic as is purely local to the City of [fol. 507] Lexington, don't you?

A. Yes, sir.

Q. Won't affect traffic that's local to the County unless they are coming right up to Lexington?

A. Oh, yes, people living out that way would use the underpass.

Q. And every time they eliminate a grade crossing it makes the highway safer for the traveling people, whether local or through traffic?

A. Yes, sir.

Q. The construction of this new highway will be a great benefit to the people of this county won't it?

A. Yes, I think so.

Q. On the old Highway between Lexington and Perryville, does that Highway at any point ever get under high water?

A. Yes.

Q. At how many places and how frequently?

A. Well, I can't remember how frequent, but two or three places, at Chesterfield and Beacon has been under water and been that way for a month or so, or very near a month.

Q. What effect does that have on the traffic?

A. Just closes that road, stops them from coming that way to Lexington.

Q. If they want to come to Lexington have to come some other way?

A. Yes.

Q. How high does that water get up over that old road?
[fol. 508] A. Pretty high in places, around Beacon it looks like the Tennessee River backed up there.

Redirect examination:

Q. Mr. Holland, in referring to the local county traffic that will be diverted from the Clifton Street crossing to the underpass, do you refer to the traffic in that portion of the county served by the State Highway #20 between Lexington and Perryville?

A. Yes, sir.

Q. Now, for the traffic in the Southern part of the County such as the traffic from Reagan, Center Point, Sardis and Saltillo, will that traffic go through this underpass?

A. No, sir, that will come across the Clifton Street crossing as usual, unless the State should connect those highways outside of the Town, and might use it anyway as they run parallel.

Q. Are you familiar with the old road between Lexington and Perryville?

A. Yes, sir.

Q. Will it be necessary to keep open a substantial portion of that old road for the benefit of the local traffic?

A. I think so.

Recross-examination:

Q. That old road is pretty crooked?
[fol. 509] A. No crookeder road in the United States.

Q. Got short hills where automobiles happen to meet on the top of a hill are likely to have a collision?

A. Yes, sir, there are hills.

Redirect examination:

Q. Since it will be necessary to keep open this old road that you say is crooked, a considerable number of those people between Lexington and Perryville will still have to use this old road, will they not?

A. Yes, sir.

Recross-examination:

Q. But the danger will be decreased considerably by virtue of the new road, won't it?

A. Yes, sir.

And further this deponent sayeth not.

W. R. Holland.

Sworn to before me this, the 31st day of March, 1932. Dura Lewis, Notary Public. My Commission expires April 4, 1932. (Seal.)

[fol. 510] Next witness, F. J. Azbill, being first duly sworn, deposed as follows:

Q. 1. Please state your age, residence and business?

A. 57 years, residence Lexington, and business is Justice of the Peace, Chairman of the County Court.

Q. 2. As Chairman of the County Court briefly state what your official duties are?

A. Well, I believe they call me kinder financial agent for the County.

Q. 3. You preside over the County Quarterly Court?

A. County Court in quarterly sessions.

Q. 4. To what extent if any did the constituted authorities of Henderson County determine the routing of Route #20 from the Perryville Bridge through Lexington?

A. I don't think I understand.

Q. 5. Did the County Court of Henderson County have anything to do with the determining the location and routing of Route #20 from the Perryville Bridge through Decatur and Henderson Counties and to Lexington?

A. I don't think so, unless it was securing some of the right of ways.

Q. 6. Did the County have anything to do with the alignment, the kind and character of construction of this new road?

A. I don't think so, it was left up to the State.

Q. 7. Did the County request the re-alignment of Route #20 from the present Clifton Street crossing to the under-
[fol. 511] pass under the railroad track?

A. I couldn't say, I wasn't chairman of the County Court at that time.

Q. 8. When were you elected Chairman of the County Court?

A. January, 1932.

Q. 9. Were you a Magistrate prior to that time?

A. Yes, sir.

Q. 10. Member of the County Court?

A. Yes, sir.

Q. 11. How long had you been a member of the County Court?

A. Since September 1930.

Q. 12. Since you have been a member of the County Court has the County authorities ever requested that this new Highway be located where it is located, and did the county authorities make a request for this underpass?

A. I don't think so, if they did I don't know anything about it.

Q. 13. You attended the sessions of the County Quarterly Court regularly, didn't you?

A. Yes, sir.

Q. 14. To what extent if any will the County contribute to the cost of this underpass?

A. None in so far as I know, unless it is in helping secure the right of way—well, to this underpass, none that I know of.

Q. 15. To what extent will the re-alignment of Route #20 [fol. 512] in the City of Lexington reduce the volume of traffic on the Clifton Street crossing?

A. Well, I couldn't say what effect it would have.

Q. 16. Are you familiar with the towns of Reagan, Sardis, Saltillo, Center Point and those towns in the Southern portion of the County?

A. I know where they are located.

Q. 17. Does the traffic from those towns and from that section of the county use the Clifton Street crossing?

A. Principally, I think.

Q. 18. Will they continue to use the Clifton Street crossing after the completion of this underpass?

A. Well, I would think so.

Q. 19. Will the local traffic here in Lexington, a substantial portion of the local traffic here in Lexington continue to use the Clifton Street crossing?

A. I think so.

Q. 20. After the completion of the underpass?

A. Yes.

Cross-examined:

Q. 1. You have been a member of the County Court since September 1930?

A. Yes, sir.

Q. 2. And Chairman since——

A. January, 1932.

[fol. 513] Q. 3. In the construction of this new highway between Perryville and Lexington, did the county procure the rights of way where necessary?

A. Yes, I think so.

Q. 4. You have been asked about the traffic from certain towns in the county, such as Sardis, Reagan, Center Point, and Saltillo, those towns are located in such part of the county as that they can't conveniently get to the new Highway and come into Lexington are they not?

A. No, sir, it would be more convenient to use the old road, the new road wouldn't be as convenient to them. I might say that Saltillo is not in this County and I don't know whether Saltillo would come around another route or not, whether it would come through Decaturville and over the new road or not.

Q. 5. At any rate that section that comes over the old road comes in a different direction to the new road?

A. Yes, sir.

Q. 6. Those towns and those communities are located on a road that comes into Lexington almost at right angles to this new road, aren't they?

A. Yes, sir.

Q. 7. That is, the new road comes in to the East from Lexington?

A. Yes, sir.

Q. 8. And the road over which the traveling public from the communities of Center Point, Reagan, Sardis and Saltillo?

[fol. 514] A. Yes, sir.

Q. 9. Now, if the new road had been so constructed coming into Lexington as to throw all the traffic coming in over it across the railroad at Clifton Street Crossing, that would have increased the hazard and danger at that crossing wouldn't it?

A. Yes, sir.

Q. 10. And would have increased the hazard and danger to the traffic coming in from that direction by having to come over the new road?

A. By this main thoroughfare being constructed across that route?

Q. 11. Yes.

A. Yes, sir. In other words whatever new traffic would go over the new road would have to cross the Clifton Street crossing.

Q. 12. And if the Road had continued on through to Memphis, it would have increased it more?

A. I think so.

Q. 13. And might have increased it very materially?

A. Yes, sir.

[fol. 515] Q. 14. Some reference has been made to local traffic crossing the Clifton Street crossing. Quite a bit of that traffic is brought about by people driving around in Lexington, joy rid*d*ing, going no place in particular isn't it?

A. That's about the most prominent street in town, it is the longest street in town and people use that street more.

Q. 15. When the new road is completed, affording an outlet from Lexington in both directions, that sort of traffic will be diverted to the new road won't it?

A. To a certain extent.

Q. 16. And likely to a very large extent?

A. I couldn't say, but I imagine it will have quite a change in it.

Q. 17. You live right in Lexington do you?

A. Yes, sir.

Q. 18. You are familiar with the old highway between Perryville and Lexington?

A. Yes, sir.

Q. 19. That highway gets under water frequently doesn't it?

—. ——.

[fol. 516] Q. 20. Sufficient to block traffic for several hours and sometimes days at a time?

A. Yes, sir.

Redirect examination.

Q. 1. Where do you live with reference to the Clifton Street crossing?

A. Just south of the crossing.

Q. 2. Do you use the Clifton Street crossing in coming to town?

A. Yes, sir.

Q. 3. Will you and your family continue to use that crossing in coming to town after the underpass is completed?

A. Yes.

Q. 4. Now, you were asked about when the underpass is completed, the through traffic going through the underpass instead of the Clifton Street crossing will avoid that much hazard to such traffic as will use the Clifton Street crossing, that's what you said I believe, is it not?

[fol. 517] A. Would avoid that much through traffic, fast traffic.

Q. 5. You were asked if after the completion of the underpass the through traffic using the new highway going through the underpass instead of the Clifton Street crossing would decrease the hazard and danger. The fact that the through traffic would use the underpass instead of the Clifton Street crossing would decrease the danger to the local traffic that would use the Clifton Street Crossing, that's true is it?

A. Well, it would be to that extent. Whatever traffic is diverted to the new road would take it off that much.

And further this deponent sayeth not.

F. J. Azbill.

Sworn to before me this the 31st day of March, 1932. Duro Lewis, Notary Public. My commission expires April 4, 1932. (Seal.)

[fol. 518] Deposition J. H. Bill—Filed April 7, 1932

[Title omitted]

The depositions of J. B. Hill, Chas. Barham, O. F. Goetz, W. G. Templeton, H. H. Cartwright, W. K. Tate, L. E. McKeand, E. B. Duval, L. G. Waldrop, C. M. Darden, Jno. M. Schubert, Frank Slemons, J. O. Davis, Chas. M. McCabe, W. H. Puryear, and Robt. Baker, taken by agreement at 930 Broadway, Nashville, Tennessee, commencing on March 25th, 1932, on behalf of the complainant in the

above cause. It is agreed that all formalities as to notice and otherwise are waived and that the court reporter, who is also a notary public, may transcribe his notes and sign the names of the witnesses thereto. It is expressly agreed that all objections as to relevancy, competency and otherwise, except to the form of questions, are reserved to the hearing.

Present: Fitzgerald Hall, for the complainant; Roy H. Beeler, for the Defendants.

[fol. 519] J. B. HILL, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Please give your age, residence, business and railroad qualifications?

A. Age 53, residence, Nashville, Tennessee. I have been president of the Nashville, Chattanooga & St. Louis Railway since 1926. I have been in railroad service since 1898, beginning in agency work and remaining five years in the Transportation Department. I was about twelve years in the Treasury Department and finally occupied the position of Treasurer and Assistant to President. My service with this Railway, therefore, has been more than thirty-three years in various capacities.

Q. Have you read and studied the petition in this cause?

A. Yes.

Q. Describe in general the highway system and its uses in Tennessee prior to the advent of general automobile use and good roads, for example, at the approximate date of 1900.

A. In 1900 we had no highway system in Tennessee in the sense in which that expression is now used. The county had been, up to that time and continued to be until 1916, the political road building unit. County roads had been built radiating from the county seats to various sections of the county and many of these, where they reached the county [fol. 520] line, connected with similarly built roads in the adjoining county. These roads were built with a minimum amount of grading and under the supervision of the road overseer who had no training in road building nor any road

machinery and they were designed purely to serve the farms by which they meandered. Each county had acted on its own initiative and without reference to any other county so that, instead of having a state highway system, we had 96 separate and distinct county systems.

In addition to the county highways, there were a number of turn pikes built and maintained by turn pike companies, which levied tolls on all users of the pikes. Many of these roads had been built under competent supervision and generally the routes were selected with such care that very little change has been made in them to this day. The present highways from Nashville to Murfreesboro, to Franklin and to Gallatin are good examples of some of these old pikes refinished for modern use.

It was not until 1891 that the Tennessee Legislature took any cognizance of the road situation and passed the first enabling act permitting a county to issue road bonds subject to a county election. Between then and 1900, many such enabling acts were passed and the money thus secured was used largely by the counties in purchasing the turn pikes and throwing them open to the free use of the public.

County roads were mostly built of gravel and were narrow, bumpy trails composed more of sand and clay than gravel. Waterbound macadam was considered the highest [fol. 521] practicable type of road and the extensive use of this high type was confined to the most progressive counties. In general and except for the highest type of county highways, there were no specifications for building or maintaining the county roads, the work to be performed in each civil district being left to the judgment of the road commissioners of that district. The location of the roads in each civil district was determined by the county court acting upon petitions filed with the road commissioners. The result was in most counties a more or less complete network of roads, frequently poorly conceived, poorly constructed and poorly maintained.

The use of roads around 1900 and for a considerable time before and after that period was almost wholly a local one. The distance of journeys was limited by the endurance of animals which were either ridden or pulled a conveyance. Passenger travel was almost wholly in light vehicles to points where connection was made with railroads and freight was hauled to or from the nearest railroad point,

as the case might be. The roads in this period, instead of furnishing a mode of competition for the railroad, furnished a medium on which the freight was hauled to and from the railroad.

Q. Give the comparative situation with the present highway system in Tennessee and the use thereof.

A. In contrast with the highway system around 1900 and for many years thereafter is the highway system of Tennessee today which with the modern automobile or motor [fol. 522] vehicles has revolutionized not only the movement of persons and freight traffic, but has actually influenced the habits, thinking and development of the people. Instead of having ninety-six county systems, poorly constructed, poorly maintained and with but little coordination, we have about 7,000 miles of roadway designated as the State Highway System which for the most part is being provided by the State and National Governments. This system parallels substantially all of the railroad mileage in the State, connects not only all of the principal points in the State, but the Highway System itself is coordinated and connected with the highways of other states, making a continuous route for the entire country. Of this State Highway System, almost 3,000 miles is of high-type pavement composed of concrete slab construction either with or without an asphalt surface. The intermediate-type road, comprising about 1,300 miles of the State Highway System, is usually paved with two well-rolled layers of crushed rock, gravel or chert and has an oiled or asphalt surface. The low-type of road in the State Highway System is about 3,600 miles and is of crushed stone, gravel or dirt. The high-type road is designed for high speed and great weight; is, as far as practicable, laid out on straight lines and with minimum grades. Time and distance have so yielded to the modern automobile and good roads that journeys at the present time in one hour or one day would, over the county roads in 1900, have comprised one or ten days, respectively. Journeys from two to four hundred [fol. 523] miles with freight or passengers is a common undertaking and it is quite common to see on the highways motor vehicles from far-distant points. In fact, the private automobiles for passengers has perhaps become the largest mode of even long-distance travel. Great bus lines operate from New York to Florida and from coast to

coast over such highways as those in Tennessee, and interstate freight movement is already of tremendous volume and is measurably increasing. Sizes of buses and trucks have increased from a moderate capacity to vehicles of great carrying capacity limited only in size by the regulations of the various states, and freight vehicles in some states are coupled together under a permissible length of as much as eighty five feet. Tennessee has not yet limited by statute the length of highway vehicles and some more than seventy feet long operate over the highways. The Tennessee Highway Department is understood to be considering some regulations whereby the maximum length will be forty-five feet.

The number of passengers handled on the N. C. & St. L. has declined from its highest point in 1920 to 1931 from 4,385,630 to 444,582, a decrease of 90 per cent. Its freight movement has been deceased tremendously by highway competition, as evidenced by the fact that its open agencies deceased from 239 in 1925 to 134 in 1931.

Remaining county roads in the state have been greatly improved and adapted to the movement of traffic by auto- [fol. 524] mobiles. They connect up with the main highways of the state, for the most part, and instead of these county roads being feeders to the railroad's traffic, now provide an individual movement of this traffic to its ultimate destination, by means of buses and trucks. The entire state system of roads, therefore, lends itself to a competition with railroads for commercial traffic in contrast to the former county system of roads which delivered traffic to and received traffic from the railroads.

The certified road mileage of the United States, State Highway Systems, is about 324,000 miles. The automotive vehicles number more than 26,000,000 which includes 3,480,939 trucks in private, commercial and carrier-for-hire service, and also more than 46,000.*00* carrier buses.

Q. Comment in some detail on the grade crossing problem as of that period about 1900 and as of today.

A. For the first fifty years of the life of railroads owners and managers of railroads held to the view that the railroads were private property and entitled to as much freedom of action and management as any other private property and business. As such they were taxed by the communities they invaded in return for the benefits which they

enjoyed as a business concern, or for any inconvenience or burden which they imposed upon the communities. Among the burdens were the inherent dangers of railroad operation to the usual modes of travel at grade crossings. Where travel became heavy enough at grade crossings and other means of protection did not suffice, the railroads were [fol. 525] called upon to effect a separation of grades in the interest of safety.

The public on the other hand for many years prior to any active regulation of the railroads was leaning more and more to the view that the railroads were a monopoly, were a utility essential to the public welfare and although they might be private property in a sense, they were impressed with a public service which required regulation and control in the public interest. This feeling culminated in the passage of the Interstate Commerce Act in 1887 which had for its purpose the removal of discrimination. In the years that passed many other regulatory laws were placed on the statute books, until finally the regulations and restrictions on railroads amounted to an effective control without responsibility for financial results. The plight of the railroads was recognized in the Transportation Act of 1920 which was the first national statute admitting the principle that railroads were entitled to a fair return on the value of the property devoted to public use and undertook to say that the basis of rates should be such as would grant such a fair return. In determining this fair return, taxes were considered in the nature of an operating charge, hence rates should be sufficient to include taxes. In theory, therefore, taxes assessed against and paid by railroads would be offset by rates sufficient to meet them. In practice this does not occur, for the reason that the roads have not earned a fair return on the value of their property and taxes have been constantly upward since the passage of the Transportation Act.

[fol. 526] The cost of a grade separation in accounting prescribed by the Interstate Commerce Commission is an improvement or Capital Charge, although in effect it is a tax or operating expense against the railroad in the normal course of operation. It is imposed upon the railway by law and is an additional tax or burden, and is not deductible as any other operating expense in determining the New Railway Operating Income used as a measure of

whether a railroad has earned a fair return on the value of its property. Classed as an improvement, we are then required to pay taxes upon it although it is an expenditure primarily for the public benefit and adds but little or nothing to the earning power of the railroad.

It would seem, therefore, that the taxes and burdens originating when railroads were private property as any other business are being continued after law and regulations have changed the railroad's status and power to earn; and that to require railroads to separate grades at their expense or any part of it not so exacted of others, particularly competing carriers, is discrimination, for the reason that the railroad gets no benefit not enjoyed by others and as a citizen has contributed to the present State Highway System and is continuing to contribute to it in the following way:

(1) Through the usual property taxes in years past the railroads contributed to much of the grading and right of way cost of highway later converted into the State System;

(2) Through the payment of tax on large quantities of gasoline used in railroad operation, and the payment of a gasoline tax by many railroad agents and representatives in company service;

[fol. 527] (3) Through the payment of Federal Income Tax, the source of Federal-Aid Highway funds. Although the railroads of the United States are a public utility and are regulated and controlled by law, and although they have not as a whole and in very few individual instances earned the fair return permitted by law, taxes accrued against Class I railroads for the years 1922 to 1930, inclusive, were as follows:

	Federal	Other	Total
1922	$52,648,695	$248,786,339	$301,415,035
1923	77,699,877	254,371,391	332,071,268
1924	74,963,937	266,564,314	341,528,251
1925	87,680,010	271,691,877	359,371,887
1926	109,817,494	279,941,982	389,759,476
1927	86,031,418	219,011,559	377,042,987
1928	89,277,354	300,720,300	389,997,654
1929	90,690,857	306,569,958	397,260,815
1930	40,985,890	308,220,732	349,206,622
	$709,795,533	$2,527,858,452	$2,237,653,985

[fol. 528] Similar comparison for the Nashville, Chattanooga & St. Louis Railway for the same years shown as follows:

	Federal	Other	Total
1922	100,000	337,884	437,884
1923	200,000	520,000	720,000
1924	210,000	460,000	670,000
1925	215,000	605,000	820,000
1926	538,788	508,053	1,136,841
1927	374,219	646,861	1,021,080
1928	356,306	638,068	1,039,373
1929	394,643	743,710	1,138,353
1930	75,070	751,449	826,519
	$2,464,025	$5,346,025	$7,810,050

The purposes for which the taxes paid by the Nashville, Chattanooga & St. Louis Railway are used is shown by the following table, which covers the state and county taxes for the Railway operating in 33 counties in Tennessee:

Year 1930		Per cent
State running expenses	$34,234.04	6.83
County running expenses	50,327.22	10.05
Schools	248,723.57	49.65
Roads and highways	104,027.98	20.77
Bonds, Sinking Fund, Interest	44,532.93	8.90
Public Buildings	3,672.95	0.73
Charity, Paupers, Poorhouses, etc.	9,412.13	1.88
Insanity Claims	1,929.84	0.39
Health Units, Cow testers, etc.	4,014.58	0.80

[fol. 529] The above statements as they refer to the N. C. & St. L. do not include any taxes on one of the important divisions of the railroad, namely, the Atlanta Division in the State of Georgia, because that is a rented property from the State of Georgia and it is assumed that equivalent of taxes is included in the lease rental.

Note particularly in the above tax statements the large contribution to Federal taxes from which federal aid road funds are paid, and the large percentage of state and county taxes used for roads and highways which are to a large extent used by competitors of railroads. The Southern group of carriers, of which the Nashville, Chattanooga & St. Louis Railway is a member, have not since the passage of the Transportation Act earned the fair return on the value of their property devoted to public use, nor has the Nashville, Chattanooga & St. Louis Railway earned the fair return provided by law on the tentative value of its property as made by the Interstate Commerce Commission.

Q. To what extent in Tennessee have the users of the highways been required to participate directly in the cost of grade crossing protection and elimination?

A. The users of the highways have not been required in Tennessee to participate directly in the expense of grade separation. Funds for those separations have come from the State, the Federal Government and direct participation by the railroads. The highway user, through the payment of a gasoline tax and insofar as he pays Federal income tax, contributes indirectly to the separation of grades. The Railway makes this same contribution, and in addition, the special one imposed by law.

[fol. 530] I have just noticed that is not an absolute answer to your question because you say crossing protection and elimination, and the same answer would apply, because the State has not contributed to any protection.

Q. You mean by that the State of Tennessee has not constructed any wigwags, provided any crossing watchmen, crossing gates or other modern methods of protection of grade crossing?

A. That is right.

Q. All of that has been financed exclusively by the railroads?

A. Yes sir, that is my understanding.

Q. Compare the danger at grade crossings from the standpoint of those responsible therefor, that is, the motorists, and the operators of trains.

A. At present the danger at grade crossings is wholly different to that originally existing. Danger to the highway user can arise only from his own negligence. Under old conditions there might be very great danger to the highway user of a grade crossing without any fault on his part, due to the inherent nature of the motive power of his vehicle. This isn't true today at all. The motorist may safely approach within a few feet of a railroad track with none of the dangers that were attendant upon animal-drawn vehicles. It is substantially accurate to say that there can be no danger to the highway user of a grade crossing today which is not the result of his own negli-

[fol. 531] gence. Much used crossings are now protected by adequate signals, which are visible and audible both day and night. The modern automobile is warned of the crossing long before it reaches it, is fast moving and can stop or start rapidly. With the exercise of ordinary care it is

in perfect control of its driver, and unlike an animal, yields itself immediately to the driver's own will. Again, originally the danger when the train struck a vehicle was to the vehicle, and the animal drawing its occupants, because the vehicle itself was of comparatively light construction and with its load and the animals pulling it was insignificant as compared with the weight of the train. In such a collision there was but little danger to the train crew or the passengers. The vehicle was knocked clear of the track. Under existing conditions, however, automobiles are made of steel and heavy parts, trucks and buses carry heavy loads and frequently are laden with dangerous articles such as explosives or inflammable gasoline and oils. A collision, therefore, between an engine and a motor vehicle may result in the wheels of the engine being lifted from the rail by the impact or a steel part of the motor vehicle, resulting in the engine riding the rail and a serious derailment, with consequence loss of life to railroad employes and passengers or damage to property. Again, as has happened on the N. C. & St. L. Railway, the train may collide with a truck of gasoline, and by ignition of the gasoline [fol. 532] from the firebox of the engine or otherwise, burn the property of the railroad or kill its employes or passengers.

That highway motors are recognized as dangerous instrumentalities is forcefully stated in an editorial appearing in the Nashville Tennessean of February 27, 1932, as follows:

"Murder by Auto

"In spite of increased efforts to regulate traffic and to educate the public against careless automobile driving in order to reduce the appalling number of persons killed annually in Tennessee by traffic accidents, the figures for January show a great increase in such deaths over January of last year.

"We, apparently, can expect little improvement, but rather may look forward to increased homicide with automobiles, until more drastic action is taken against those who commit such offenses.

"Until the public has become awakened to the extent that murder with an automobile will be considered on a plane with murder by shooting or murder by cutting, we

are likely to see a continuance of the great loss of life in our streets and on our highways. A driver's license, if efforts likely to be made at the next session of the legislature to obtain a license law are successful, would be a factor in cutting down the traffic accident death rate, for under [fol. 533] such a law only those qualified physically and by age would be permitted to hold a driver's license, and those who become guilty of serious traffic violations would have their license revoked."

Likewise the Supreme Court of Tennessee in the case of Southern Railway vs. Simpson, 149 Tenn. 458, 462, made the following statement:

"A murderous contempt for all regulations ordained to control their movements is too common, among those operating motor vehicles, to justify the court in permitting such lawlessness to be rewarded, unless the statutes so compel."

Man originally was not in complete control and mastery of the agency used by him in transportation. A horse, a mule or an ox did not always yield its will to the hand that guided it. The animal-drawn vehicle was slow in its approach to crossings and because of the greater speed of the train, the driver frequently found himself near an approaching train and in trouble and danger. Animals became frightened and were just as likely to run across the track as to wheel and run the other way. The railroad presented a dangerous instrumentality because of the inherent nature of the animal driven. Originally there were no visible and audible signals as at present perfected. Originally, crossings at grade frequently had steep ap- [fol. 534] proaches whereas now the grade for prevailing modes of travel is insignificant and the crossing itself in no way retards vehicle movement. Originally, the railroads projected themselves into an established road condition where their presence was an element of danger.

Viewed from a safety viewpoint, therefore, the conditions are so changed that the burden would seem to rest upon the highway user, rather than upon the railway, to bear the expense of grade separation. Where the whole change in transportation methods has been to lessen traffic of the railroad and for the purpose of adding convenience to highway travel, the added convenience should be paid

for by those who enjoy it. If grade separation must be restored to save time for the highway users, they should absorb the expense thereof in the same manner that they pay for shortening distance in the highways and elimination of grades and curves.

Again, the conditions justifying the separation of grades have materially changed since the advent of automobiles. Originally, grade separation was for the purpose of safety only.

While, as I stated before, originally grade separation was a local matter, designed in the interest of safety only, it is today not a local matter and not primarily a matter of safety. With the mechanical devices protecting grade crossings, with the improvement in the crossings themselves, people in any community, knowing train schedules, [fol. 535] may use grade crossings with little or no danger. But so much of the travel today is through travel. People using the highways are not familiar with local conditions. Those using the highways want to make great speed and everybody knows they do. The modern grade crossings, such as the particular one at Lexington here under discussion, is not devised in any degree for local safety but as a part of through highway of commerce and stands relatively in the same category as to highway traffic as a tunnel does to railroad traffic. In other words, the object is for the convenience and economies to the road users.

Q. Compare the benefits derived from the grade crossing elimination as between railroads and motor vehicle users.

A. The railroad use of grade crossings is perhaps no greater at the present time than many years ago, for the reason that heavier locomotives pull longer trains and trains have not multiplied in proportion to the volume of traffic moving. The hazard at the crossing is created, so far as the railroad is concerned, by the number of trains and not by their size. On the other hand, the grade crossing is used many times as much by the highway user as before the advent of the automobile; because the territory using the crossing has been so greatly enlarged, thus multiplying the number of units which use the highway grade crossing. Whatever benefits accrue therefore, to the highway user because of separation of grade have been multiplied many times by present modes of highway transporta-

[fol. 536] tion. Since the use of a crossing has so much greater number of highway units than railway units, the benefits in its elimination accrue on a much larger scale to the highway user than to the railway user. If the highway user is impatient to stop, look and listen, or if he wants to eliminate the danger in not doing so, he should be required to pay whatever cost is necessary for the convenience he desires.

Q. What is the justification in these grade crossing elimination projects, taking the one at Lexington involved in this case as a specific example, in requiring only the railroad to directly participate in the cost of elimination.

A. As discussed in the answers to previous questions, under existing conditions where crossings are protected with audible and vehicle signals as at the existing crossing at Lexington, there is no justification for the railroad being put to additional expense, as a matter of safety. So far as the saving of time is concerned, train movement is not of such consequence in the Lexington district as to retard movement over the crossing for any appreciable period, and even so a minute or so loss to the modern automobile is of no consequence. The existing crossing at Lexington accomodates safely and promptly all of the travel local to the community. To separate the grade at the new proposed location is to divert only a part of the present travel on the present highway to the new location. It does not remove any of the alleged disabilities of the existing crossing and the alleged advantages of separation at the new [fol. 537] location will inure for the most part to through travel much of which is now competitive with the railroad and which once afforded a substantial revenue. The railroad occupies its location by right of an essential and important public service. It should not be put to the expense of modifying its conditions to meet new and changed conditions where the benefits do not accrue to it, but accrue to the users of the highway. It should be accepted as a fixity in the same way that any other obstacle natural or otherwise is accepted and the expense to avoid such an obstacle in the public interest should be borne by the public to which the railway is a contributor just as any other citizen.

Q. Describe in general the territory from Nashville to Linden via Centerville, and then from Linden through Lex-

ington to the point of connection of Route No. 20 with Route No. 1.

A. Highway No. 1 and present Highway No. 100 are the same going west on the Harding Road out of Nashville for about twelve miles until they separate at the town of Bellvue. Highway 100 then branches to the left and runs almost southwest toward Centerville and Linden. The country around Bellvue is a spendid farming section and is fairly densely populated. Beyond Bellvue up to Linton, Tennessee, while very hilly, it is likewise good territory. However, a new route for Highway No. 100 as it leaves the environs of Nashville has been laid out and graded. Going west from Nashville the new highway No. 100 will turn off from the present route just east of the new grade separation [fol. 538] on the Harding Road and follows along the right of way of the railroad for many miles. This new location misses entirely the town and community of Bellvue and serves no community center until it again joins the old route. It is therefore in its approach to Nashville not a local road, but actually misses an already established community. The distance eliminated by the change of route near Nashville is small and the existing hard surfaced highway is good and sufficient to meet the needs of local travel for an indefinite time. Beginning, however, at a point just beyond Linton, say about twenty miles from Nashville, Highway 100 runs almost on a straight line through a territory of poor land, scrubby timber, sparsely inhabited, with scarcely a dwelling larger than a two or three room structure and very few of those. As far as the eye can see on either side of the highway the flatwoods prevail and the land has for the most part the appearance of being almost valueless. The highway through this territory is of excellent high-type construction, but cannot possibly have justification for present or prospective local needs. Except for the little village of Bon Aqua, which is a dilapidated summer resort of other days, there is no village between Bellvue and Centerville located on the highway. The roads leading into the highway are few and far between and are country roads of scarcely no preparation or value. Centerville, Tennessee, is the county seat of Hickman County. It is a nice little town of about 943 popula- [fol. 539] tion, located on the Nashville, Chattanooga & St. Louis Railway's branch line. Between Centerville and

Linden, which is the county seat of Perry County, the highway continues through a very hilly and poor country covered with scrub timber, sparsely settled, with scarcely a single farm to at-ract attention, or with but few houses which are more than shacks. The territory is poor, drab and uninviting, with very little possibility of future development which will make it better than at present. Scarcely any territory of the state could have been picked which had as little possibility of development or to justify the need for the high-type highway for prospective future local requirements. Linden is the county seat of Perry County and has a population of about 539.

Q. To what extent was such a highway necessary to take care of local travel?

A. Highway No. 100 from Nashville to Linden, and No. 20 from Linden to Lexington does not seem to have been necessary either as a through route connecting Nashville with Memphis, or as a local route connecting the county seats between Nashville and Lexington with each other, or with Nashville on the one side and Memphis on the other. A high-type road between Nashville and Memphis already existed in Route No. 1 between Nashville and Memphis, passing through Jackson, Tennessee. Route No. 100 between Nashville and Centerville does not pass through the county seat of Williamson County. Locally it was not needed to connect the county seat of Williamson County to the county seat of Hickman County, nor for a connection between the [fol. 540] county seat of Hickman County and Linden, the county seat of Perry County. Both Linden and Centerville had good roads between them, though of a little greater distance, and could reach Nashville on excellent roads, though at a little greater distance. Local roads and routes were already in evidence from the principal places between Nashville and Lexington before the construction of Highway No. 100, and eliminating that route entirely between Nashville and Linden a study of the map shows residents of any of the principal points could reach either Nashville or Memphis and substantial points between those cities by other and existing routes. As a through route the N. C. & St. L. should not be called upon to duplicate separation of grades caused by the building of Route No. 1. It had already shared in the separation of two grade crossings near Dickson, Tennessee, one near White Bluff and a large pro-

ject just out of Nashville, at a total cost to the Railway for the four projects of $63,024.78.

Q. Describe this route No. 20 as it approaches Lexington from Linden and state to what extent the re-routing of said highway from the Clifton Street crossing as it is now to the proposed subway will facilitate local travel.

A. There is a high type road between Linden and the Tennessee River bridge near Perryville. The road misses the town of Perryville and for the entire distance between [fol. 541] Linden and Perryville runs through a hilly and poor country of sparse settlement, except a few little communities such as Parsona and Darden. The highway between Perryville and Lexington almost parallels the Perryville Branch of the N. C. & St. L. Railway. Prior to the new route for No. 20 and the tremendous expenditures for straightening and grading it, a good road sufficient for local needs existed. At least, with but modern cost for surfacing it could for all time admirably meet the requirements of the territory. Approaching the town of Lexington the old and the new highway almost parallel each other. The old highway circling a little bit around the edge of the town approaches and enters Lexington by way of Clifton Street and the present grade crossing of the railroad now protected by electric wig-wag signal. The new proposed route will pass under the railroad at the proposed underpass a few hundred yards east of the Clifton Street crossing. The distance between Perryville and Lexington by the old and the new proposed route is somewhat lessened, but for the local travel involved would not justify the great expenditures made. The proposed approach of the new route into the town of Lexington via the proposed underpass is through a part of the corporation but little occupied, is a poor section of the city and between the corporate limits where the highway enters the city and the underpass the ground is so broken and uneven that development there will not likely take place. The new route will accommodate (exclusive of any through business which may be attracted to [fol. 542] it) only a part of the local travel now accommodated by the existing road; and the proposed underpass will accommodate and be used by only a part of the travel under the existing Clifton Street crossing. Clifton Street crossing in Lexington cannot be abandoned, as it serves

the approach of not only two other rural routes, but a substantial part of the town of Lexington. These two routes, as well as the part of the town of Lexington served by this crossing, cannot be diverted to the proposed under-pass, without great inconvenience and hardship on the public. For local purposes, therefore, the present crossing at Clifton Street must be maintained to accommodate a large portion of local travel, and the new proposed crossing will not serve any local travel which could not, without material inconvenience, have used the Clifton Street crossing. It follows, therefore, that the new underpass is desirable only for the needs of through travel which without Route 100 would have accommodatel itself in its movement across the state by other good and existing routes.

We therefore have in this particular case the following economic problems. Perryville is a substantial little town on the Tennessee River. It is served by a branch line of the N. C. & St. L. touching the main line of that company at Lexington. Along this branch are several small towns, all of which are now served by a very good county road which I have recently been over. The railroad will continue to be there, the county road will continue to be there, and now the government of the United States and the gov- [fol. 543] ernment of the State of Tennessee are combining to add a third closely paralleled roadway, but with this difference, that this new highway won't serve the communities served by the railroad and the existing county highway but is merely designed as the shortest possible cut on a part of a through route from Nashville to Memphis. This new highway won't eliminate the expense of maintaining the existing county road. That road must continue to be maintained in order to serve the local communities; the railroad must continue to serve the local communities; and the public at large must finance this new high-class competing highway, not to serve the local communities, but to constitute a unit in a through route for long distance interstate commerce. And now it is suggested in addition to all the taxes proper that the N. C. & St. L. pays the City of Lexington, the County of Henderson and the State of Tennessee and the federal government, that it alone of all citizens and taxpayers contribute directly to the cost of this grade separation project on this new route, when it is the only citizen that will be damaged by the construction of the

through route and when others will get practically the entire benefit, if any benefit there be, from this public expenditure.

By agreement Gen. Beeler reserves the right at a later date to cross-examine Mr. Hill.

Further deponent saith not.

J. B. Hill, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. (Seal.)

[fol. 544] Cross-Examination of J. B. Hill—Filed December 15, 1932

44043

The Nashville, Chattanooga & St. Louis Railway

vs.

Robert H. Baker, Commissioner, etc.

Present: Fitzgerald Hall, for the Complainant; Roy H. Beeler, for the Defendant.

Pursuant to previous reservation and agreement of counsel the following witnesses are called for cross-examination by the defendant on this the 21st day of November 1932, at the office of the defendant in the Memorial Building, Nashville, Tennessee.

By Gen. Beeler:

This cross-examination is subject to such exceptions as have been reserved and may be made because of incompetent, irrelevant and immaterial matter.

J. B. Hill, the first witness, being re-called for cross-examination deposed as follows:

By Gen. Beeler:

Q. Mr. Hill, in order to get it officially in the record, can you give me the approximate length in miles of the State of

[fol. 545] Tennessee and also the width? I am talking about the State itself.

A. You mean the State Highway System?

Q. No, the State, just the State from the extreme point on the east to Memphis in the west?

A. It would be around five hundred miles; something above five hundred miles.

Q. And about how wide?

A. Approximately 150 miles. I don't know; that is merely an approximation.

Q. The State of Tennessee and the State of North Carolina immediately on the east cover the entire territory, of course, between the Atlantic and the Mississippi River on the west?

A. Yes.

Q. Now, all north and south trucks, except those that pass down over the East coast of California, would pass across the State of Tennessee, east of the Mississippi?

A. Destined to where?

Q. Destined to points south, in Georgia, New Orleans, La. What I am getting at is the north and south interstate movement.

A. I just couldn't answer that question with- an examination of the maps and all; I don't know.

Q. Well, Tennessee does lie in the pathway of that North and south traffic, in the main, doesn't it?

A. Well, I should say as to the traffic from the eastern seaboard that was unquestionably true, that is, from this east-[fol. 546] ern section of the United States. Whether that would be true from the middle west or from this side, frankly I don't know because I don't know the highway routes, and altogether I am not sure about the traffic that would move from this eastern territory, whether it would necessarily come down here or whether it would come down here (indicating). I am just not qualified on the question of highway routes.

Q. Now, there is a good deal of proof in this record, Mr. Hill, about the weight of different motor vehicles, you might say excessive. You are familiar with the fact that the state laws of the State of Tennessee limit the weight of any one unit. By that I mean the gross weight not to exceed ten tons.

A. 20,000 pounds I understand to be the weight of any

one unit but I understood the law is construed that a trailer could carry 20,000 pounds as well as the front unit 20,000 pounds.

Q. Construing them as separate units?

A. Yes.

Q. And the regulation as to the length, over all, is forty-five feet?

A. I have understood—I believe since the proof was taken in this case perhaps the Highway Department got out directions that the extreme length would be forty-five feet.

Q. Now, there has been some testimony here, a considerable amount of, showing decrease in passengers by rail since 1920. I take it you don't mean to attribute that altogether to motor vehicle competition, do you?

[fol. 547] A. I wouldn't say that it was exclusively that. I would say, however, that despite increasing freight movement from 1920 through 1926 and the large movement in 1929, that while we were having this tremendous business prosperity in the freight traffic movement that our passenger traffic movement constantly declined, and while the small number of passengers that we might be handling at this very date might not be wholly due to private car transportation, yet it is largely due to that because the passenger loss has shown despite the rising tendency during the period of the peak freight business; that is, we have had a constant loss in passengers although the freight movement was excellent up through 1929.

Q. Well, now, how do those figures compare relatively since 1929? I mean by that to include this period of extraordinary depression that prevails all over the country?

A. My recollection, General Beeler, is that the percentage of loss has continued just about the same, that is, this year, along there and previous, has continued about the same percentage of loss that it had during the past six or eight years.

Q. Well, what is the relative proportion as regards loss of passenger and freight traffic since 1929? Has that changed any?

A. Since 1929 just in general the statement is this: we have lost about ninety per cent of our passenger travel since 1920. Without being able to say accurately without the figures I should say that since 1929 we had made a twenty-[fol. 548] five per cent reduction, since 1929. I am just—without having some records in front of me, that is an ap-

proximation. The freight movement, I should say, since 1929 has been equally that much—the loss has been equally that much.

Q. Well, was that greater in percentage as regards freight since 1929 than it was before? Had it increased any way?

A. Yes, sir, it was greater. The loss in freight since 1929 has been greater. My opinion is that Mr. Barham can answer you with more accuracy about those exact percentages, but I think I have given a general answer to it.

Q. Now, you have abandoned a whole lot of your agencies in the last few years?

A. More than fifty per cent, I think.

Q. Now, do you attribute this loss in traffic to motor bus and passenger carriers or is it attributable in the main to private cars?

A. I should say both factors enter into the loss of passenger travel. My conviction though is that the private motor car has taken a larger per cent of the passenger travel, that is, local passenger travel; that is, for short distances, private motor cars have taken a larger percentage than the bus has.

Q. In order to get your idea, Mr. Hill, as to what should be done to relieve the situation of this sort, do you or do you not think that the answer, at least to a certain degree, of the [fol. 549] situation that confronts the railroads would be to have the motor vehicle carriers subject to federal regulation?

A. Interstate—undoubtedly it ought to be.

Q. Now, suppose your railroad contributes to the cost of grade separation, say it amounted to $50,000 at one time, should or should not that be considered a capital charge in your opinion on which the road should be entitled to earn a satisfactory return or a reasonable return, or should it be charged to operating expenses and paid that way?

A. Under the accounting rules as prescribed by the Interstate Commerce Commission a grade separation which involves a new struction would be a capital charge and it would be included in the railroad's valuation, on which it would be entitled to earn a fair return, as being part of the property value. As a matter of consideration by a layman a grade separation project would seem to be in the nature of an operating charge because it is one that is required as part of your operation. It seems under the existing law

where we haven't earned a fair return on the value of our property, as fixed by the Commission, a situation that is wholly inequitable and rather anomalous that we should be made to make an improvement and charge it to capital account and presumably get a return on it and we will not get it because we haven't earned a fair return. To answer your specific question as I did answer it, it is a capital charge on which we are entitled to earn a fair return.

[fol. 550] Q. Well, now, in order to get it in the record, since 1929 the country has, as a whole and with all classes of business, experienced about the worst period of depression in the history of our country, hasn't it?

A. Certainly the worst within my experience.

Q. Now, in your testimony in chief you made allocation of the taxes paid by your company in thirty three counties in Tennessee for the year 1930 and included in that an item amounting to 22.77 per cent or $104,207.98. Can you state whether or not that item allocated to roads and highways includes anything contributed by your company to grade crossing separation or is that grade crossing entirely out of that?

A. No, this is taxes pure and simple with nothing for grade separation.

Q. Can you give me, offhand, the value of the N. C. & St. L. Railway property in Tennessee, as fixed by the Interstate Commerce Commission?

A. The final valuation of the Interstate Commerce Commission on an inventory of June 30, 1916, as fixed by the Interstate Commerce Commission for rate-making purposes is $42,669,881. That is including property owned and leased, provided it was used for transportation purposes. Since June 30, 1916, the Nashville, Chattanooga & St. Louis Railway has added additions and betterments in the State of Tennessee, charged under the rules of the Interstate [fol. 551] Commerce Commission to capital account with no deduction whatever for depreciation, the sum of $13,-111,515. These latter figures include expenditures for grade separation projects and other non-productive expenditures made in obedience to orders of the constituted authorities.

Q. Well, now, Mr. Hill, right in that connection, can you give us the approximate assessment for taxation of The N. C. & St. L. property in Tennessee, say, for the last year?

A. Last year it was assessed at $23,750.00 and this year it has been assessed at $21,000,000. They have just given notice that they have made the assessment at $21,000,000.

Q. Is that a tentative assessment or final?

A. That is the Railroad Commission's final assessment.

Q. Mr. Hill, on your lines in Tennessee are there any cities that have provided crossing watchmen and still maintain those crossing watchmen?

A. You mean the cities themselves provide and pay for them?

Q. Yes.

A. I don't recall that there are. If there are any crossings of that nature I don't know.

Q. Do any of them provide gates or wig-wags that they pay for at those crossings?

A. I don't recall that any of them do; that any of the cities do that.

[fol. 552] Q. Now, of course, crossing dangers have increased very materially both as to the railroad and as to the highway travel. This whole proof shows that, doesn't it.

A. Well, that depends altogether on what you mean, Gen. Beeler. The use of the railroad by its trains has not increased in the number of trains that run. They have actually decreased the number of trains by reason of the fact that trains have been made longer, so the agencies which are the element of danger created by the railroad are actually less in number than they have been in previous years because trains are longer. That is, you have a fewer number of units than you had heretofore. The danger at the crossing when one of these trains passing is perhaps greater by reason of the larger number of vehicles that cross a certain crossing, but the train units are actually less than they have been in previous years. Train length and load has been constantly greater.

Q. But the danger on account of accident at crossings is increased or decreased as the use of the crossing increased or decreased by different motor vehicles or other vehicles, doesn't it?

A. I would say yes. That is a danger, however, that in my judgment, inures by reason of the motor vehicles and not by increased use that the railroad has made of the crossing. In fact, we use it less.

Q. Brought about by the increased use by the motor vehicles?

[fol. 553] A. Yes.

Q. And wherever that increased use takes place the danger increases of a collision?

A. The danger increases if the motorist doesn't use ordinary or proper precaution.

Q. That danger would be greater on a through highway where there is a bigger volume of traffic along the highway than it would on a highway that is not used so frequently, wouldn't it?

A. If the motorist is to disregard any warning or crossing signs. Of course the danger is greater to him where the greatest number of motor vehicles are. Where the crossings though have got the protection provided by the Tennessee law the danger ought not to increase to him at all because he has got notice of the dangerous condition is ahead of him and it seems to me largely his responsibility if the element of danger enters into it at all.

Q. Now, do you have more collisions with motorists traveling on these through highways where the traffic over the highway is more frequent than you have on the other highways where the traffic is infrequent?

A. General Beeler, frankly, I can't answer that because I haven't seen—so far as I know, the statistics haven't been analyzed for me in that particular way.

Q. How long has your railroad line been constructed along Route No. 100 and No. 20 between Nashville and Memphis?

[fol. 554] A. Our line, of course, has been in existence longer than the existing highway has been in existence.

Q. Well, that is a new highway, apparently, isn't it?

A. Yes. You asked me how long our line had been in there.

Q. Been constructed along that route. I don't mean to imply that the highway was constructed before your railroad. I just want to know about when your railroad was constructed through that territory.

A. The Memphis Division was constructed—we bought the Nashville & Northwestern along about 1873. My recollection is it was constructed somewhere in the 1860's. Of course, I don't know when highway No. 20 was put there but I could tell about the time our railroad was. The Nash-

ville & Northwestern line that runs to Hickman, which goes through Bruceton, we purchased it in 1873. It was constructed somewhere about 1860. Now, the P & M Division was a later construction. It runs through Lexington. I don't know the exact date but it was after 18—.

Q. What character of freight up to within the last ten years, say, was picked up and hauled along the route of this line between here and Lexington?

A. Before the construction of good roads, that is, before the construction of the existing highways all manner of local freight was handled by the railroad. That is, if it happened to be farm products that came in for sale in the cities, it was handled into the stations and it was there [fol. 555] billed to the centers of consumption, whether it was logs, lumber, farm products or anything of that nature. Since the highways were constructed practically all of that class of local freight has disappeared. Small stations handle practically nothing because freight, once loaded on the trucks for movement, comes into the main thoroughfare and moves to its ultimate destination. Now, in West Tennessee—of course, Mr. Barham is more qualified on the exact traffic than I am—there is quite a cotton movement and quite a sweet potato movement, all of which we had controlled and which we had handled until the advent of the highways. Since that time we have lost quantities of it from time to time and during the last year, I think —my recollection is that we lost the larger part of it. Since that time we have had some rate adjustments and by adjustments I mean we have had to lower our rates to meet a form of competition and we have gotten some of the potato movement and some of the cotton movement back.

Q. Where do those articles of freight originating in that territory move to as their market usually, if they move to different places?

A. Well, your potatoes might go to the larger centers in Tennessee but they don't usually do that. They move to the north, as I appreciate it, to the larger centers like Cincinnati, Chicago and points of that kind. They go to those larger markets. Cotton, of course, a great deal of it goes into the Carolina territory and ordinarily we handle it, to Atlanta and it goes back into South Carolina or to the mills in that district. The territory itself around Lex- [fol. 556] ington in that particular district is a rather un-

productive territory. There is not much freight that originates there at all.

Q. Now, has that condition obtained for several years past?

A. It has been highly productive territory.

Q. Well, freight that does originate in that territory does it usually move through Memphis, Nashville or does it go some other route north or south?

A. Frankly, I couldn't undertake to say the ultimate destination of it. Of course, it goes to any larger center where the market is sufficient to attract it but I don't imagine that stuff that originates in that territory has any particular or certain markets beyond perhaps the sweet potatoes and I don't know where they do move to.

Q. Do you have any considerable competition up and down the river in that territory?

A. No.

Q. You spoke of the fact that you frequently hauled some logs out of there. Isn't it a fact, Mr. Hill, that practically all the timber is now cut off of that territory?

A. I should say that would be true on any territory contiguous to the main line of the railroad.

Q. Do you have any rule or regulation or regular time when your depots shall open and close each day for the reception and delivery of freight?

[fol. 557] A. Yes sir, there is a rule.

Q. What time do they open?

A. The agent ordinarily works eight hours. Where the traffic of the territory is sufficient to justify it longer stations would be kept open to accommodate whatever business was in sight. Ordinarily, I should say those agents are open for about eight hours, largely conforming their office opening to the nature of the business and the train movements. Where there are also operators they would be there. As a general proposition open around 8 o'clock and close at 4 or 5 o'clock in the afternoon. I presume that is what you are after as to the general opening of the offices.

Q. Now let's take Nashville as an illustration. Suppose some wholesale house like the A. & P. Stores or H. G. Hill & Company desire to ship some freight, say, to Knoxville, over your railroad when they get out of the wholesale house to your depot at five o'clock in the afternoon on Monday. When will it get to Knoxville?

A. My information is that the freight house in Nashville closes about four o'clock in the afternoon. That being the case, of course that freight wouldn't move until the following day. That should put it into Knoxville about the second day. That depends purely on whether it would be made up in carload movement, how soon thereafter can be made at Chattanooga, how soon the Southern Railway would take it to Chattanooga, but I should say that freight delivered down here in Nashville ought to reach Knoxville on the second day.

[fol. 558] Q. Suppose it was, as you suggest, a carload movement and let it be delivered to the railroad on Monday afternoon at five o'clock in Nashville. It would go over your line to Chattanooga and have to be transferred there. Then it would go in the John Sevier Yards above Knoxville when the Southern landed that freight in Knoxville——

A. I don't know about their yards, General Beeler, I don't know their location at Knoxville.

Q. If that same freight moved out of Nashville at five o'clock in the afternoon by truck it would get to Knoxville the next morning, wouldn't it?

A. I am not familiar with their schedules but I understand such time is made—such stuff is moved from Nashville and delivered in Knoxville the next morning.

Q. There is a line of trucks that operate both west from Knoxville and one going into Knoxville and one to Chattanooga each night, isn't that true?

A. I think that is true.

Q. Mr. Hill, do you have available, and if you don't who would, the amounts of contributions that have been made to your railroad and to predecessor lines by the State of Tennessee and the various counties of the State by way of money contributed, through bonds issued or otherwise?

A. Do you mean by that that loans have been made the companies or that money has actually been given?

Q. Money actually given.

[fol. 559] A. General Beeler, I have no knowledge at all of the gifts that have been made the original companies which the present company may have bought out through foreclosure. I may not be wholly accurate in my knowledge with respect to the existing parent company but within my knowledge of the records, of the minute books, of the investigation by the Interstate Commerce Commission, Bureau of Valuations, I don't recall that any gratuity has

been given the present corporation. That is, nothing has been given it which it has not repaid. It is my recollection from the older records that the municipality of Murfreesboro, for example, subscribed for stock. The State of Tennessee, according to my recollection, endorsed certain bonds for the Railroad and it actually loaned some state bonds, all of which was paid in full with principal and interest. That is my general recollection of the assistance that the state may have given the existing corporation. As to whether any amounts of money were given by the State to several of those branches, which were separate corporations, which were later bought in by the Railroad under foreclosure, I have no knowledge of that, although I have never understood that the state made a gift to any of these predecessor companies. Frankly, I can't answer as to them.

Q. Were there several of these predecessor companies that were absorbed by the N. C. & St. L. Railway?

A. Yes, a number of them.

Q. Can you give us the names?

A. The Nashville and Tuscaloosa Railroad, which was the Centreville Branch, McMinnville & Southwestern, I be- [fol. 560] lieve they called it, and the McMinnville & Manchester Railroad was the Sparta Branch. The Tennessee & Pacific Railroad was the Lebanon Branch. The railroad across the Tennessee River in Alabama, which we call the Tennessee & Coosa Branch, I just can't recall the name of that. That was an absorbed line. The Duck River Valley Railroad, which was a narrow gauge railroad operating from Fayetteville to Columbia was absorbed. The Huntsville Branch running from Elora down to Hobbs Island or Huntsville, I can't recall the name of that, but it was an absorbed line. In fact, nearly all of our branch lines were built by some other companies and finally came into possession of this company through foreclosure.

Q. Mr. Hill, isn't it a fact that the years 1928 and 1929 were the best years that the railroads of the country generally ever had from the standpoint of gross receipts?

A. I wouldn't like to answer that so far as the railroads in general are concerned. For our railroad my recollection is that we had one year, either 1923 or 1926, which was in excess of 1929, although our net in 1929 was, I believe, the best year we have had but it was comparable though with the net results in 1916. As to the exact number of tons

handled, volume of traffic handled, I can't recall exactly about that. There would be no trouble—the annual report gives the exact statistics but I just can't carry that tonnage in my mind. (At this point Mr. Barham handed a statement to the witness.) In 1929 our gross tons handled, total tons handled was larger than any year back to 1914. [fol. 561] It was slightly in excess of 1928 and was slightly in excess of 1920. So I could say 1928 and 1929 in the matter of actual tons handled were the largest years.

Q. What about 1930 there?

A. 1930 was less than 1929. We had 8,180,000 tons in 1929 and 7,370,000 in 1930.

Q. Now, wouldn't that indicate that this period of depression was largely responsible for that falling off?

A. I wouldn't undertake to say that the period of depression didn't enter into it, Judge Beeler, very greatly. I undoubtedly think that is true.

Q. About what year, Mr. Hill, did your company and its officials begin to notice that automobiles and trucks were beginning to make any considerable inroads in traffic?

A. You are speaking with respect to passengers?

Q. Well, take them separately.

A. The passenger movement, as I said a while ago, stepped down almost continuously, noticeably so, as I recall it, from about 1923 and it has been gradual every year since that time. Freight movement losses by reason of the truck movement have been substantially coincident with the building of a highway a long-side of our line. Wherever a good road was completed local freight movement substantially and immediately disappeared. Even during that [fol. 562] period where the highways didn't reach an occasional station there wasn't that same disappearance of traffic. Traffic held up pretty well. I have in mind the little station of Normandy up here, for example. I recall seeing some figures with respect to that. The freight movement there held up fairly constant while at Tullahoma, which is, of course, on the highway, within the past four or five or six years, my recollection is that the freight tonnage is perhaps not more than one-fifth of what it was before the highways were constructed. In other words, we noticed immediately that the highway was developed that our freight immediately fell off.

Q. Did you notice any increase in any different kinds

of freight at any of your stations along your route due to the construction of the highways?

A. Well, we have had, of course, movement incident to the building of the roads.

Q. That is, shipments of material, sand, gravel, cement?

A. Yes sir, and things of that sort. We have had a large movement while the roads were in process of construction. In fact, Mr. Barham has got a memorandum here showing cement, gravel, sand and a great many other items.

Q. Incident to the construction of the roads?

A. Yes.

Q. Do you have any fast freights on your road that are operated every day?

[fol. 563] A. Substantially all we handle are fast freight. We live by fast service.

Q. Do you know how many miles an hour those trains average?

A. I don't know the exact schedule of those trains. I do know those trains run forty to forty-five miles an hour. I think our slow board ordinarily on freight movement is forty-five miles an hour. That is the maximum speed. The General Manager is qualified and can answer that particular question. I imagine those freights though average twenty-five miles an hour.

Q. Do they stop at way stations?

A. No, very seldom they stop at way stations. We have local trains, I should say, on each division which handle the small local freight that is available.

Q. Have you ever considered the proposition of operating trucks in connection with your railroad operation to pick up and deliver this freight—store door service?

A. That matter is under consideration at the moment. The N. C. & St. L. and the L. & N. are actually making arrangements to enter into pick up and store delivery.

Q. Have some of the railroads adopted that practice?

A. Some of them have had it for some time with varying results as to the success of it.

Q. Does the Cotton Belt have an operation of that sort?

A. The Cotton Belt, as I recall it, both operate a good many buses in passenger service and have pick up and [fol. 564] delivery service in freight. It is handled, as I appreciate it, through a subsidiary company called the St. Louis-Southwestern Transportation Company but it is

owned by the Cotton Belt Company and I assume its revenues and expenses are taken care of by that railroad.

Q. Has this operation referred to in these pamphlets been called to your attention, Mr. Hill? (Handing pamphlet to the witness.)

A. I think I have had some notice of that. I just don't recall. That is just fast freight train service, blue streak train service. Of course, that is an article written there for the Cotton Belt Railroad but I imagine there are numbers of railroads that have got just as fast freight service as this.

Q. Would you mind putting that into the record as Exhibit No. 1 to your cross-examination for whatever it is worth?

A. I have no objection to putting it in.

(Article so filed and marked.)

Q. I show you an article appearing in the August, 1932, issue of the Country Gentleman headed "The Transportation Mess" written by Ben Hibbs and will ask you to file that as Exhibit No. 2 to your cross-examination.

By Mr. Hall: We have no objection. Of course, not having seen it—the fact that it is filed as an exhibit to Mr. [fol. 565] Hill's testimony doesn't mean that he thinks either the facts or the conclusions are stated correctly because he hasn't seen it before.

By Gen Beeler: It might be well for him to make that statement as a part of his answer. I am trying to get it in the record for whatever it is worth.

A. This article just seems to be the expression of one man's opinion on apparently a dozen different phases of this whole situation, some of which I might agree with and some of which I might not agree with as to my belief in what is stated therein or to the correctness of the conclusions drawn.

(Article so filed and marked.)

Redirect examination.

By Mr. Hall:

Q. Mr. Hill, mention was made of the public bus and the private automobile. Isn't it a fact that a great many

private automobiles are now in the passenger business and there are regularly established bureaus where a man with a private car is going to take a given trip and he advertises for passengers and transfers them as passengers from place to place all over the country and particularly here in Tennessee?

A. My information is that that is true, and beyond that, where there is no organized or scheduled movement a man [fol. 566] with a private car from these territories contiguous to the big cities frequently by common arrangement with his neighbors will arrange so as to bring them into the cities.

Q. Isn't it also a fact that while in the last thirty months highway construction in Tennessee has been substantially equal if not greater than for all previous years, that freight handled by The N. C. & St. L. Railway has not increased but since 1929 has been constantly going down?

A. Undoubtedly so.

Q. And the expenditures for grade separation which, under the orders of the Interstate Commerce Commission, we charge to capital account have added nothing to the productivity of the railroad as would a new and better locomotive or strengthening a piece of track or reducing a grade or an improvement of that type?

A. That is absolutely true. I don't believe there has been a grade separation that has been constructed in connection with Highway Department work that if left to the discretion of the management that they couldn't have used the funds which would have produced a return on the investment, whereas, so far as we can state, those produced none.

Q. You were asked by Gen. Beeler about the limitation of weight. Isn't it a fact that most of these big trucks are really two units, that is, the first unit is merely a truck tractor carrying nothing itself, and then attached to it is what is technically known as a semi-trailer, and that under [fol. 567] the law of Tennessee, as construed and applied, still this one operating unit maximum of 20,000 pounds applies to each of them, making a limit of 40,000 pounds?

A. I have frequently seen trucks of the nature you describe making deliveries in the City of Nashville and I

have seen them on the highway. I can't say specifically as to how the State has of determining the weight of those things but presumably they carry more than 20,000 pounds.

Q. Mr. Hill, I will ask you if you will file as Exhibit No. 3 to your cross-examination an editorial of the Nashville Banner of Saturday, July 23rd entitled "An Appalling Record" and state whether or not the contents of that are in accord with the investigations of our company made as to automobile accidents?

A. This article in the Nashville Banner is apparently based on records of the National Safety Council and other information which gives the number of fatalities, number of accidents connected with automobile injuries, etc., and, of course, must be an approximation so far as time lost, etc. is involved but it is apparently based on current information as to those things.

Q. Now, is that about in accordance with your own information and from studies you have made of this accident problem?

A. It is in accordance with the information that I have from this National Safety Council concerning the number of accidents, fatalities, etc. In fact, this information here [fol. 568] is reproduced in another editorial from an entirely different source.

(Editorial so filed and marked.)

Recross-examination.

By Gen. Beeler:

Q. You don't mean to be understood as saying that the highway construction for the past two years in Tennessee was greater than it had been in previous years?

A. I really intended to qualify Mr. Hall's question by answering that I didn't know whether highway construction was greater in the last thirty months than any other time. My general information is that certainly during the past twelve or eighteen months it hasn't gone just as fast as it had up to that period. I thought his question was directed to the general statement that during the last year or so of it in line with the large highway department and not particularly that it had been greater in the past

eighteen months than some previous period. I intended to qualify that question and failed to do it—qualify the answer to that question.

Q. It looks a little bit like there is a drought ahead in highway construction like everything else now, doesn't it?

A. Frankly, I haven't kept up with it but I hope so.

Q. Now, with reference to these two unit motor vehicle operations, a tractor pulling a load, as you have observed, [fol. 569] over the highways of the state doesn't carry any load, any of the load itself, does it?

A. I don't know whether the front part of that load bears any on that or whether it is an entirely separate tractor. My recollection is that those things, the front part of what we call the trailer or semi-trailer is joined onto that tractor and I assume that the tractor would carry part of that load but I don't know.

Q. Well, what I mean by the question is that no part of the load is actually loaded on that tractor in front?

A. No, it is an instrumentality which has the nature of being shoved back under and coupled to that.

Q. Does your railroad company own any automobiles and trucks?

A. We own a few automobiles which are used by our commercial agents as passenger cars. We have had some buses which were in operation between Cowan and Tracy City the operation of which has been discontinued. Those were owned by a subsidiary company, The N. C. & St. L. Motor Transportation Company, owned by the N. C. & St. L. Railway. That operation, however, has been discontinued except operating one large truck between our shops and the freight house. We are not operating in any form of commercial service any vehicles of that sort.

Q. Now, you have some commercial men that are using passenger automobiles?

A. Yes.

[fol. 570] Q. Why do they use them instead of the trains?

A. Largely in Florida where they can cover eight or ten times as much territory as they could on trains.

Q. Do they use any of them in Tennessee?

A. In Tennessee we don't own any automobiles but we frequently make the commercial agents or traffic solicitors

an allowance for gasoline, etc., where they choose to use their own cars for covering larger territory.

Further deponent saith not.

J. B. Hill, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. My commission expires Jan. 6, 1936. (Seal.)

[fol. 571] E. B. DUVAL, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Give, please, your name, age, address and business.

A. E. B. Duval, age sixty, law agent, Nashville Terminals, address, Nashville, Tennessee.

Q. Mr. Duval, have you checked the records of that portion of the railroad in Nashville known as the Nashville Terminals showing how many times when our gates at public crossings were down that drivers of automobiles ran into or through those gates?

A. I have.

Q. And have you made a correct compilation from the official records of the Nashville Terminals for the years 1924-1930, inclusive?

A. I have up to July 1st, 1930.

Q. Why did you stop at that particular time?

A. Because about that time electric signals had been installed at those crossings and the gates taken away.

[fol. 572] Q. Now, will you hand to the Court reporter a list, to be copied as an answer to this question, of the number of times and places where these automobiles ran into the gates?

A. Yes, I have a statement showing for each year from the first of 1924 until July 1, 1930. The list is as follows:

Crossing Gate Damage in Nashville Terminals, January 1, 1924, to July 1, 1930

1924

	No. of accidents
12th Ave. gates	10
17th Ave.	2
Foster Street	2
18th Ave.	2
Third Ave.	3
Chestnut Street	2
Ewing Avenue	1
16th Avenue	1
Cherry Street	1
Total	24

[fol. 573]

1925

12th Avenue	9
16th Avenue	2
18th Avenue	2
17th Avenue	3
Clifton Pike	1
Third Avenue	3
Chestnut Street	3
Ewing Avenue	1
Foster Street	1
Fogg Street	1
Total	26

1926

	No. of accidents
12th Avenue	13
Third Avenue	2
Ewing Avenue	4
Foster Street	3
17th Avenue	3
18th Avenue	5
Chestnut Street	6
16th Avenue	3
Total	39

[fol. 574] 1927

	No. of accidents
12th Avenue	10
Harrison Street	2
Third Avenue	5
16th Avenue	1
Foster Street	4
Ewing Avenue	1
18th Avenue	2
19th Avenue	1
17th Avenue	1
Chestnut Street	1
Fogg Street	1
Clifton Pike	1
Total	30

1928

	No. of accidents
12th Avenue	10
17th Avenue	4
3rd Avenue	5
Clifton Pike	1
Cherry Street	3
Foster Street	2
Ewing Avenue	1
Harrison Street	1
Fogg Street	1
16th Avenue	2
Total	30

[fol. 575] 1929

	No. of accidents
12th Avenue	13
17th Avenue	1
Cherry Street	3
19th Avenue	4
3rd Avenue	7
Ewing Avenue	1
Harrison Street	2
Foster Street	1
18th Avenue	2

	No. of accidents
Fogg Street	3
16th Avenue	1
Total	38

1930

(Up to July time that lights & Bells substituted for gates.)

	No. of accidents
12th Avenue	7
3rd Avenue	6
Foster Street	2
Total	15

[fol. 576] This statement includes only accidents where automobiles, trucks or wagons ran into and damaged our crossing gates.

Cross-examination reserved.
Further deponent saith not.

E. B. Duval, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 577] Monday, March 28, 1932.

Frank Slemons, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. State your residence and occupation, giving both your railroad and legal experience?

A. I have practiced law continuously for a little more than fifty years. In that time I have been local counsel at Nashville for The Nashville, Chattanooga & St. Louis Rail-

way about seventeen years. In that capacity I tried the lawsuits against the Railway growing out of personal injuries, which embraced perhaps four-fifths of the litigation. In the latter part of 1918, shortly after the death of Judge Waller, General counsel, I was appointed Assistant General Counsel, and have occupied that position since that time. My work, to the largest extent, has been examining the facts concerning accidents occurring on the road, and advising the law agents and our attorneys as to settlements, and directing declination of claim or defending of suits when that course seems advisable. The reports of personal injuries that come to my desk are from all over the system, including Tennessee, Alabama, Georgia and Kentucky. My residence is Nashville, Tennessee.

[fol. 578] Q. Does Chapter 132 of the Public Acts of 1921 of Tennessee or any of the amendments impose upon any citizen except railroads the burden of directly contributing to the expenses of grade crossing elimination?

A. No.

Q. Are there any statutes in Tennessee imposing upon motor vehicle owners or users any direct burden of grade crossing protection or elimination?

A. No.

Q. Do any of the municipalities of Tennessee by ordinance impose upon railroads and the N. C. & St. L. in particular the expense of grade crossing protection, and in some instances the elimination?

A. There are a large number of crossings protected by watchmen or flashing lights in Tennessee. Some of these have been required by ordinance and some have been erected as a result of negotiations with municipalities, and some by what appears to the railway officers as necessary to safety of vehicular traffic and train protection.

(a) Electric flashlight, protection has been installed Huntingdon, Dresden, Lexington, Smyrna, Murfreesboro (Main Street, Shelbyville Pike, Salem Pike), Wartrace, [fol. 579] Normandy, Cowan, Bell Buckle, Tullahoma and near Sewanee.

(b) Crossing watchmen are employed at Dickson, Jackson, Paris, Dechere and Chattanooga.

As to flashlights required by ordinances, the following data has been furnished by our Signal Maintainer:

Statement showing municipalities in which electric crossing signals have been installed by the N. C. & St. L. Railway account of ordinances passed by said municipalities.

State of Tennessee

Name of city	Number of crossings	Number of signals	Cost	Date of Ordinance
Nashville	11	28	$17,793.14	Dec. 18, 1929
Chattanooga	9	18	15,190.31	Jan. 1, 1929 and Nov. 12, 1929
Memphis	7	14	8,208.47	Jan. 15, 1931
Tullahoma	1	2	2,875.16	1919

Note: The seven crossings listed at Memphis, Tennessee, of this number the N. C. & St. L. participated in full cost of three crossings but only one-half the cost of four crossings. [fol. 580] The L. & N. Railroad Company, reports the following as to grade crossing protection:

"Louisville & Nashville Railroad Company, Engineering Department

Louisville, Ky., February 19, 1932.

J. H. Schubert, Signal Engr., Nashville, Chattanooga & St. Louis Railway, Nashville, Tennessee.

Dear Sir: Crossing Protection, State of Tennessee Reference to your letter of the 17th, requesting information for your legal department as to whether or not municipalities in the State of Tennessee, by ordinance, impose upon railroads the expense of grade crossing protection.

The city of Memphis, Tennessee, required the L. & N. Railroad to provide signal protection at certain crossings in that city under ordinance dated November 12, 1930. The L. & N. Railroad was required to modify the protection at certain crossings which did not involve a charge but at other crossings they were required to install automatic lights and crossing gates as developed by the city authorities. For your information I am attaching hereto a list of the crossings showing the present protection and the required protection, which has now been installed. The [fol. 581] estimated cost of protecting these crossings is

shown on the blueprint copies of the following AFE forms which I am attaching hereto.

AFE 13415. Flashing lights at Jackson University Blvd.
AFE 13449. " " " Old Raleigh Road.
AFE 15408. " " " Douglas St. and wooden crossing signs at Davis Street.
AFE 14834. " " " Dunlap, Decatur, Waldran, *Decatur, Waldran* Bellvue, Stonewall, Avalon, Tutweiler, Belvedere, Evergreen, Auburndale, McLean, Springdale, Hollywood, Pershing and Broad Streets, and crossing gates at Leawood Avenue.

We were also required to participate jointly with the I. C. Railroad and the Y. & M. V. Railroad for the installation of flashing light signals at Talbott Street. I am attaching hereto copy AFE 15692, showing the estimated cost of this installation.

The L. & N. Railroad was required to provide this protection by ordinance, and bore the cost of the same except where part of the cost was borne by other railroads as stated.

In regard to your request as to what protection was required by ordinance in the City of Nashville, I wish to state [fol. 582] that the L. & N. substituted crossing protection for certain crossings in Nashville on petition of the city council. The city council authorized this protection by ordinance dated 12-18-29. For your information, I am attaching hereto the following AFE forms covering the protection which was installed.

AFE 12680. Installation of flashing light signals with illuminated stop signs and bells at Second Avenue.
AFE 13220. Rev. #1—Installation of crossing signals at Third Avenue.

AFE 13221 N. & D.—Installation of flashing light crossing signals at Fogg Street, and Ewing Avenue.

AFE 13844—Installation of flashing light signals at Foster Street.

These forms show the estimated costs for these crossings.

"If additional information is required, please advise, and I shall be glad to furnish the same.

Yours truly, W. H. Stillwell, Signal Engineer."

[fol. 583] In order that the progress of flashlight protection may be understood, I attach as my Exhibit No. 1, a paper giving data that was assembled by the L. & N. RR. Co. of their grade crossing protection at Memphis.

The following grade crossing separations on our line have been required to be made by the municipalities of Tennessee. This list shows the date of installation and cost of same.

Name	Date	Ordinance	N. C. & St. L. cost
So. Wellington St., Memphis	1914	Yes.	$2,437
Mississippi Blvd., Memphis	1914	"	10,276
Rayburn Ave. subway, Memphis	1914	"	8,586
Main Street, Memphis	1914	"	22,022
South 3rd St., Memphis	1914	"	8,929
Carolina Ave., Memphis	1912	"	57,892
Poplar Blvd., Viaduct, Memphis	1927	"	70,626
Trezevant Ave. Subway, Memphis	1913	"	13,942
Cooper Ave. and Central Ave. Viaducts, Memphis	1907	"	No record
Barksdale Ave. Subway, Memphis	1913	"	14,123
Dunlap, (Elmwood Cemetery Br. now Dudley St., 1932)	1904	"	2,163
Lamar Ave. subway	1917	"	43,607
Bellevue Blvd. (formerly Raleigh St.)	1922	"	70,559
Broad St. viaduct, Nashville	1899	No record	
[fol. 584]			
Church St. viaduct, Nashville	1899	No. record	
East, 3rd St., Chattanooga	1927	Yes	$35,715
McCallie Ave. Viaduct, Chattanooga	1915	"	17,808
East End Avenue, Chattanooga	1916–1927	"	15,733

We operate in:

Tennessee	916.58 miles
Alabama	129.65 miles
Kentucky	59.76 "
Georgia	142.22 "
Total	1,248.21

The data I have referred to herein does not include the W. & A. Railroad Division, because until about two years ago that division was under the legal supervision of counsel

at Atlanta. Without that division it will be seen that the Tennessee operations amount to about 11/12 of our mileage.

Q. Do any such ordinances apply to owners or operators of motor vehicles?

A. No.

Q. Is Exhibit No. 2 an exactly correct compilation of grade crossing elimination statutes in Tennessee as they apply to state highways?

[fol. 585] A. Yes, except in the printed Acts of 1921, Chapter 132, Section 5a, the last words are printed "highway company", which evidently is a typographical error and should be "railway company."

Q. Will you refer to those provisions of the United States Code authorizing federal aid for public highways and give the object of such statutes as shown by the provisions thereof?

A. By the act of Congress of November 9, 1921, the Agricultural Department took over all the powers and duties of the council of National Defense, in relation to highways and highway transport, and the surplus war material and equipment and supplies were transferred to the Agricultural Department, and these were directed to be distributed to the highway departments of the several states for the construction and maintenance of national highways on the same basis provided for federal aid. The evidence motive of the government was to secure good interstate highways. With this in view it is provided:

"In approving projects to receive Federal Aid under the provisions of this Chapter the Secretary of Agriculture shall give preference to such projects as will expedite the completion of an adequate and conceived system of highways, interstate in character.

[fol. 586] "Before any projects are approved by any state, such state, through its state highway department shall select or designate a system of highways not to exceed 7 per centum of the total highway mileage of such state as shown by the records of the state highway department on November 8, 1921.

"Under this system all Federal Aid apportionments shall be expended.

"Highways which may receive Federal Aid shall be divided into two classes, one of which shall be known as primary or interstate highways, and shall not exceed three-

seventhis of the total mileage which may receive Federal aid, and the other which shall connect or correlate therewith and be known *on* secondary or intercounty highways, and shall consist of the remainder of the mileage which may receive Federal aid." (Sec. 6, p. 8 of U. S. C. A. 23.)

Before Federal aid is furnished, the plans, layouts, dimensions and estimates of expenses must be submitted to the Department of Agriculture and approved. In other words, all details necessary to determine the wisdom of erecting the road must be approved by the department. The state must also assure the government that its proportion of the cost of the work has been provided. The payment from the government may be made as the work progresses, in such amounts as the government and the state highway department may determine (Id).

[fol. 587] Under the Act of 1927, it is further provided that all highways constructed or reconstructed under the provisions of the Act shall be free from tolls of any kinds, except under the Act of March 3, 1927, the state is permitted to charge tolls on state highway bridges until it reimburses itself for the amount it expended in building the same.

The Act of 1921 was amended so as to make the limitation of government aid $25,000 per mile under certain conditions.

The government's contribution to the building of these roads amounts to about ten per cent of the total cost in Tennessee.

From the foregoing it will be seen that the government, upon contributing ten per cent virtually dictates to the state, how, when and where a road shall be built, and the cost and the kinds of material to be used.

See 23 U. S. C. A., Federal Highway Act, sections 21, 53; also Act of March 3, 1927, 27 U. S. C. A. 9a.

Q. Have you had the files of the N. C. & St. L. Railway examined to see that collisions there have been on the Clifton Street crossing in the town of Lexington, giving in detail the result of that investigation?

[fol. 588] A. Upon investigation I find that within the last ten years two accidents have happened on the Clifton Street crossing at Lexington, the details of which are given in the following memoranda:

"Result of Law Agent's investigation of accident at Clifton Street, Lexington, Tennessee, when train No. 103 struck

team and wagon belonging to L. T. Fielder, September 13, 1924.

"This is the second crossing north, Hinson Springs crossing being the first which is about 500 feet from Clifton.

"Train No. 103 came to Lexington on time, did its work and left on time. The bell was ringing from the time they left the depot. Crossing signals were given for both crossings. It was down grade, train running about twenty miles per hour. An ice wagon, belonging to L. T. Fielder with two negroes and a couple of pieces of ice, was coming east on Clifton Street, team in a trot. The negroes were playing with each other and paying no attention to the train. Any time after they got within fifteen or twenty feet of the track or crossing they could have seen the train clear down to the depot if they had looked. When the team got within fifteen or twenty feet of the track and then the engine was about sixty or seventy feet from the crossing, the engineer decided [fol. 589] they were not going to stop and applied his brake in emergency but did not have time to blow the alarm whistle. About the time he applied the brakes, the negroes evidently saw the train and one ran and jumped out at the rear. The driver "set back" on the lines trying to stop the team and then he jumped out. One of the miles was killed outright. The other was cripp-ed so it had to be killed. The wagon was damaged but don't know how much.

"NOTE.—Claim for $388.00 by Lexington Ice Co. to whom team belonged but declined and nothing paid."

"Report of Investigation by Law Agent of Accident at Clifton Street, Lexington, Tennessee, When Train No. 231 Struck and Damaged Truck and Injured J. M. Brantley, February 2, 1928.

"He told me that he was hauling gravel that day for the city from the depot and that after No. 104 left he carried a load up town and unloaded it and started home for dinner; that he was so sure the branch train had gone that he did not even look for a train, knowing that no train would be along until 3 p. m. He said the first thing that attracted his attention was the blast of the whistle; that he looked up and the train was so near him he was afraid he could not stop the car in the clear and tried to make it across but failed. He thinks the front end of his truck was [fol. 590] right near the track when he discovered the train.

He said he could have seen the train any time after he was within fifty feet of the track had he looked.

"He was sent to Dr. Huntsman who treated him. His truck was carried to the garage. The damage to it is about $100.00.

"NOTE: Settled for $50.00 divided 50% each for personal injury and damage to truck." File No. 16810.

Q. Have you made a study of the grade crossing accidents on the NC&STL Railway for the ten-year period ending December 31, 1931? If so, please comment on that investigation.

A. I have had a summary made of the facts of each accident occurring at a grade crossing in Tennessee, Alabama and Kentucky for the past ten years, and have carefully read the same. Nearly half of these accidents occurred in switching operations and were trivial; such as a bent fender, a broken-down wheel, or dented automobile. Sometimes the occupant is slightly injured.

I am filing herewith as my Exhibit No. 2 a statement of the accidents that occurred to horse-drawn vehicles at crossings, said statement showing the number of fatal injuries, personal injuries and property damage.

I also attach hereto as Exhibit No. 3 a summary of the [fol. 591] number of motor vehicle accidents, showing the number of collisions and accidents that occurred on crossings, and the nature of the injury to the occupants, whether fatal, personal or property damage; also number of motor vehicles running into the side of trains or against some object near crossing in avoiding train, and also number of drivers under the influence of intoxicants.

In some of these cases no claim was made for damages. In others we contributed something to repair the vehicle. In others, where litigation was threatened or commenced, we bought our peace for a nominal amount. In others we stood trial. So small was the extent of the injury in the majority of cases that it was very much cheaper to pay the damages to the car or for the slight personal injuries than to pay court cost and attorneys' fees in litigation. Perhaps it should be noted in passing that the defense of a lawsuit, where a collision occurs, is peculiarly expensive to a railroad. Always the crew of the train involved must be taken to court, and sometimes other employes and by-standers,

and our employes must be paid the amount they would have earned on their regular jobs during the time they lose in attending Court. There is also to be considered in the way of economy the prejudice and sympathy of juries, and it [fol. 592] is seldom wise to go to trial if there is any question of fact to be left to a jury. It is likewise a source of danger to a railway in litigation that, as a rule, most of the jurors have automobiles and their sympathy is with the owner of the damaged vehicle.

O. In how many instances was the driver of the vehicle involved in the accident drinking to some extent?

A. Our reports show that in 42 instances the driver of the vehicle was drunk or drinking. Frequently the trainmen do not speak of the intoxication of the driver, as they do not have opportunity to observe. When the train stops the safety of traffic demands the attention of a number of the train crew. It is also perhaps a fact in a great majority of cases that when the auto of an intoxicated driver has been struck by a train it has a sobering effect on him, and many of them are so excited or stunned that it is difficult to tell whether they show symptoms of drinking. I think it will impress anyone upon reading the summary I have made that a considerable number of the drivers were drinking and in different stages of intoxication.

Q. For the same ten year period give the number of collisions with motor vehicles as compared with animal drawn vehicles and compare the deaths and injuries between these two classes of vehicular travel on the public highways.

[fol. 593] A. The act of 1905, Ch. 173, sec. 3 provides as follows:

"No automobile shall be run or driver upon any road, street, highway, or other public thoroughfare at a rate of speed in excess of twenty miles an hour; provided, that any municipality shall have the authority to prescribe a lower maximum rate of speed within its corporate limits."

Shannon's Code, Sec. 3079a195.

In 1923, the Act of 1905 was amended so as to give municipalities power to prescribe a speed of not less than 10 miles per hour within corporate limits and a maximum speed of 12 miles per hour at intersections.

The Acts of 1925, Ch. 132, increased the maximum speed outside of city limits to 30 miles per hour.

The Acts of 1929, Ch. 87, section 2, provided that no person should drive any vehicle upon a highway carelessly and heedlessly in wilful or wanton disregard of the rights or safety of others.

This act further provided that municipalities shall have authority within corporate limits to fix a maximum of not less than fifteen miles per hour, except in school zones, etc. [fol. 594] The Acts of 1931, Ch. 10, denounces as unlawful the driving of any motor vehicle on public roads of the state or on any street or alley of any city or town when the driver is under the influence of an intoxicant or a narcotic drug.

Q. Give the statutory regulations imposed upon railroads for safety of operation as compared with statutes regulating the movement of motor vehicles or other vehicles on the public highways.

A. Sections 2628-2629 of the new Code (1932) provide as follows:

"2628, 1574 (1166) Accidents on railroads, precautions to prevent—in order to prevent accidents upon railroads, the following precautions shall be observed:

(1) Public road crossing signal; the overseers of every public road crossed by a railroad shall place at each crossing a sign, marked as provided by section 2659, below; and the county court shall appropriate money to defray the expense of said signs; and no engine driver shall be compelled to blow the whistle or ring the bell at any crossing, unless it is so designated.

[fol. 595] (2) Whistle or bell to be sounded—On approaching every crossing so distinguished, the whistle or bell of the locomotive shall be sounded at the distance of one-fourth of a mile from the crossing, and at short intervals till the train has passed the crossing.

(3) Bell or whistle to be sounded when approaching or leaving a city or town. On approaching a city or town, the bell or whistle shall be sounded when the train is at the distance of one mile, and at short intervals till it reaches the depot or station; and on leaving a town or city, the bell or

whistle shall be sounded when the train starts, and at intervals till it has left the corporate limits.

(4) Lookout ahead; alarm whistle to be sounded, and all means employed to stop train, when,—Every railroad company shall keep the engineer, fireman, or some other person upon the locomotive, always upon the lookout ahead; and when any person, animal, or other obstruction appears upon the road, the alarm whistle shall be sounded, the brakes put down and every possible means employed to stop the train and prevent an accident.

(5) Light to be placed on rear of engine, tank, or tender while backing in the night; fine for violating.—It shall be unlawful for any person operating a railroad to use road engines without having same equipped with an electric light placed on the rear of the engine, tank, or tender, which light shall be a bull's eye lens of not less than four inches in diameter with a bulb of not less than sixty watts power, so [fol. 596] that such road engine can be operated with safety when backing and said light so placed shall be burning while any such engine may be used in any backing movement. Such lights shall be operated at night; and any person violating any of these provisions shall be fined the sum of not less than twenty-five dollars, and no more than one hundred dollars, for each offense.

2629—(1167) Failure to observe precautions; and responsibility therefor.—Every railroad company that fails to observe the above precautions, or cause them to be observed by its agent and servants shall be responsible for all damages to person or property occasioned by, or resulting from, any accident or collision that may occur."

There are also provisions with reference to stopping of trains where railroads cross each other, providing that the trains shall come to a full stop unless such railroads are connected by interlocking switches on both roads, etc.

There are also provisions with reference to the elimination of grade crossings over the public highways, which have already been referred to. (Act of 1921.)

Under the Acts of 1929, Ch. 87, it is provided that the driver of any motor vehicle shall stop at a distance of not less than 10 feet nor more than 50 feet from the nearest rail [fol. 597] of the railroad track whenever a clearly visible and

positive signal gives warning of the approach of a car or railway train, or whenever any such crossing is designated and sign posted by the highway department of the state as a particularly dangerous crossing, and the highway department of the state is authorized to designate such particularly dangerous crossings. But it is further provided that the above provision shall not be construed as abridging or in any way affecting the common law right of recovery of litigants in damage suits brought against any railway or other common carrier.

Q. What statutes in Tennessee, if any, provide for the construction and maintenance of grade crossings and approaches thereto, and upon whom is placed the burden of this cost?

A. Under the Acts of 1889, Ch. 119, Section 1, all railroads were required to make and furnish good and sufficient crossings on the highways crossed by them, and to keep same in lawful repair at their own expense. (Sec. new Code 2657.)

Railroads are also required, outside of municipal corporations, to grade the road crossing and keep in repair for a distance of ten feet on each side of the track and between the rails. (Sec. 2660 new code.)

[fol. 598] They are also required to place good and sufficient cattle guards at the points where the railroad enters a field or inclosure, and to keep the same in repair.

Q. From your study of grade crossing accidents on the N. C. & St. L. Ry., was the damage to property, injuries to persons and the loss of life due to defective railroad operation or to the operation of motor vehicles, giving the reasons for your answers?

A. Almost without exception, the damage to property and injuries to persons by reason of collisions with trains at crossings have been due to the negligence of the driver of the motor vehicle, and not to negligence in the operation of the train. If the drivers of motor vehicles would stop, look and listen when at a safe distance from the track, I do not think a single accident which we have had by reason of collissions with motor vehicles at road crossings on the line of road would have occurred. In one or two instances, in switching operations in railroad years where there are grade crossings, cars have gotten loose from the brakemen, or the engineer has mistaken the location of the cars with reference

to a crossing, or some such oversight has occurred and automobiles have been struck. Such accidents, however, are negligible in proportion to the number of accidents caused by automobile drivers.

[fol. 599] When there is taken into consideration the common and statutory law with reference to the duty of the traveler approaching a crossing there seems hardly a case where the accident is not preventable by the traveler. In Tennessee, it is the common-law duty to stop, look, listen when approaching a crossing. The statute of Tennessee, Act 1917, Chapter 36, required the drivers of automobiles to come to a full stop in not less than 10 nor more than 50 feet of the nearest rail. A violation of this act has been held by our Supreme Court to be gross negligence.

This has been modified by Acts 1929, Code 1932, Sec. 2683, by providing that the provisions as to stopping within 10 to 50 feet of the nearest rail shall apply only whenever a clearly visible and positive signal gives warning of the immediate approach of a car or railway train, or whenever the crossing is designated as a particularly dangerous crossing; but it is further provided that this precaution shall not affect the common-law rights of the traveler in his suit growing out of damage at the crossing.

The recklessness of automobile drivers has long attracted the atention of our Supreme Court. In Southern Ry. vs. Simpson, 149 Tenn. 461, a case involving a crossing accident, that court uses the following language:

[fol. 600] "Chapter 36 of the Acts of 1917 requires all automobiles to come to a full stop at a point not less than ten nor more than fifty feet from the nearest rail before undertaking to pass over any railroad crossing. It is scarcely possible that a collision between his car and the side of a train could ever result, if the driver of an automobile observed this statute. Failure to observe the statute is declared a misdemeanor.

"Automobiles were, of course, not known when the statute (Sub-Sec. 1-4, Sec. 2628, supra) was enacted. We are satisfied, however, it was not the intention of the legislature to require the observance of the provisions of subsection 3 by way of preventing the side of a train from being struck by any horseless vehicle required by law to stop before passing over the railroad track. It could

hardly have been supposed that such a collission would ever occur.

"A murderous contempt for all regulations ordained to control their movements as too common, among those operating motor vehicles, to justify the court in permitting such lawlessness to be rewarded, unless the statutes so compel."

Q. How many times in recent years have automobiles on the public highways run into N. C. & St. L. Railway trains? [fol. 601] A. On examination of our files which pertain to crossing accidents, I find that in the last ten years the drivers of motor vehicles have driven into our trains or some object near the crossing to avoid trains on 143 occasions.

Q. In all your experience in examining grade crossing accidents between trains and motor vehicles, have you ever found an instance where either a sober or careful driver had an accident?

A. I do not recall a single instance where the driver of an automobile or other motor vehicle would not have escaped the collision on a highway crossing where the train was in line movement if he had exercised ordinary care as he approached the track. In switching movements some accidents have occurred on account of oversight or negligence on the part of the trainmen.

Q. Has the Highway Department of Tennessee under Chapter 52 of the 1931 Public Acts of Tennessee designated the Clifton Street crossing in the town of Lexington as a dangerous crossing?

A. No, unless it has been done in the last few days. [fols. 602-607] Q. Has it so designated the proposed new crossing where the underpass is being built?

A. No.

Cross-examination reserved.

Further deponent saith not.

Frank Slemons, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 608] W. K. TATE, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Please state your name, age, residence, position and experience.

A. My name is W. K. Tate, 34 years of age, a resident of Nashville, Tennessee. I studied engineering at Vanderbilt University, and have been in the service of the N. C. & St. L. Railway continuously for 15 years, during which time I have filled the following positions:

One year as draftsman, instrument man and topographer engaged in preliminary and location surveys. Nine years as assistant engineer, two years as assistant engineer and track supervisor, 3 years as industrial engineer.

Q. Have you studied the highway maps of Tennessee and conferred with the public officials about them?

A. I have.

Q. Have you ever been over the new highway No. 20 connecting Linden and Lexington on state highway route No. 20?

A. I have.

[fol. 609] Q. Have you made traffic counts at various points in that territory?

A. I have.

Q. Tell exactly what traffic studies you have made and with what results.

A. During the period 2:00 P. M. Monday, September 21st, to 2:00 P. M. Thursday, September 24th, 1931, 24 hours daily traffic counts were made at the following points in and near the town of Lexington, Tennessee.

Traffic station No. 1 was located at the intersection of Clifton Street with the main line of the Nashville, Chattanooga & St. Louis Railway, Clifton Street, one of the most important streets in the city of Lexington, is the route of Federal Aid Highway No. 22, and, at the time of the check, it was also the route of Federal Aid Highway No. 20. In addition to these two federal aid roads, there is a county road extending from Lexington to Sardis and other communities in the southern part of Henderson County of which Lexington is the county seat, and traffic on this road to and

from Lexington passes over Clifton Street and the crossing of the N. C. & St. L. Railway. A considerable part of the urban and suburban population of Lexington resides south of the N. C. & St. L. Crossing, and this crossing is con- [fol. 610] stantly used for strictly urban travel. The daily average highway travel over the Clifton Street crossing was as follows:

Passenger automobiles	813	
School Busses	8	
Trucks	185	
Total automobile units		1006
Wagons	39	
Buggies	2.7	
Horses	23.3	
Total draft units		65
Pedestrians	665.3	665.3
	1736.3	1736.3

During the same period the number of trains using the crossing was as follows:

Passenger trains	6
Freight trains	8
Total	14

Traffic station No. 2 was located about one-half mile east of the Clifton Street crossing and one quarter mile east of the proposed new underpass. At the point where this station was located the old and new routes of highway No. 20 were only about 100 feet apart with a connecting road between. Part of the traffic was using the old location [fol. 611] and part the new, but in either case all traffic had to use the old route of highway No. 20 between this point and Lexington, and pass over the crossing of Clifton Street with the N. C. & St. L. Railway. The average 24 hour daily travel over the new location of highway No. 20 at this point was as follows:

Passenger automobiles	118.6	
School busses	1	
Trucks	27.3	
Total automobiles		146.9

Wagons	9	
Buggies	.3	
Horses	4.7	
Total draft units		14.0
Total pedestrians	15.7	15.7
Grand Total	176.6	176.6

The average 24 hour daily travel over the old location of state highway No. 20 at this point was as follows:

Passenger automobiles	81.3	
School busses	2.3	
Trucks	15.0	
Total Automobiles		98.6
Wagons	12.0	
Buggies	1	

[fol. 612]

Horses	4	
Total draft units		17.0
Pedestrians	35.7	35.7
Grand total	151.3	151.3

The combined total travel over the two routes was as follows:

Passenger automobiles	199.9	
School busses	3.3	
Trucks	42.3	
Total Automobiles		245.5
Wagons	21	
Buggies	1.3	
Horses	8.7	
Total draft units		31.0
Pedestrians	51.4	51.4
Grand Total	327.9	327.9

Following is the average 24 hour daily travel over the toll bridge over the Tennessee River on Highway No. 20 near Perryville, Tennessee, as taken from the records of the Commissioner of Finance and Taxation covering the

period 2:00 P. M. September 21st to 2:00 P. M. September 24th, 1931.

[fol. 613]

Passenger automobiles	20.7	
Trucks and busses	4.6	
Total automobiles		25.3
Wagons	1	
Extra draft animals	0.7	
Total draft units		1.7
Cattle, sheep, hogs, etc.	3.3	3.3
Persons	26	36
Grand total	66.3	66.3

Q. To what extent is the present use of Clifton Street crossing, which is where highway No. 20 crosses the N. C. & St. L. at Lexington, used by local traffic, and to what extent by through traffic?

A. From personal observation and the results of the traffic check, it is my opinion that 95% of the traffic over the Clifton Street crossing is local understanding by local traffic movement within a radius of 30 or 40 miles of Lexington. There is practically no interstate highway movement over the crossing.

Q. From your actual checks on the ground to what extent will the construction of this new underpass at Lexington relieve or modify the present traffic on Clifton Street crossing, giving in detail the reasons for your conclusions.

[fol. 614] A. The proposed new underpass is located near the eastern corporate limits of the town of Lexington, and there is not a single residence or place of business located along the highway between the proposed underpass and the eastern corporate limits, nor for some distance beyond. None of the city traffic or traffic moving over highway No. 22, or the county road to Sardis, now using the Clifton Street crossing, will be diverted to the new underpass. Only that traffic moving between Lexington and points east will be diverted from the Clifton Street crossing.

In this connection, it should be understood that this new federal aid road to pass under the N. C. & St. L. tracks at the proposed new underpass does not serve the community now served by the existing county road running from

Perryville to Lexington. This new road, being route No. 20 from the Tennessee River to Lexington was not laid out to serve that territory locally and does not come within a half mile of the town of Perryville and misses the towns of Beacon, Chesterfield and Warrens Bluff, located between the river and Lexington, now served by existing roads. In other words, this highway No. 20 was designed principally as a connecting link of a through route from Nashville to Memphis so that there will be diverted to it very little traffic now using the Clifton Street crossing, which traffic is largely local.

[fol. 615] Assuming that all of the traffic which passed traffic station No. 2 on September 21-24, 1931, was moving between Lexington and points east, and none originated from or was destined to points south of Lexington on highway No. 22, and therefore would not have used the Clifton Street crossing, the following traffic would have continued to use the Clifton Street crossing even if the underpass had been constructed and open for traffic on the days the check was made.

Passenger automobiles	613.1	.....
School busses	4.7	.....
Trucks	142.7	.....
Total Automobiles	.....	760.5
Wagons	18	.....
Buggies	1.4	.....
Horses	14.6	.....
Total draft units	.....	34.0
Pedestrians	613.9	613.9
Grand Total	1408.4	1408.4

The percentage of traffic now using the Clifton Street crossing which will be diverted to the new underpass is as follows:

Automobiles	24.4%
Draft Units	47.7%
Pedestrians	7.7%
Total Traffic	18.9%

[fol. 616] Q. Take Exhibit No. 5 to the original bill and comment on the traffic routes between Nashville, Jackson and Memphis.

A. The principally used route between Nashville, Jackson and Memphis is State Highway No. 1 which is the same as Federal Route No. 70. This is a modern federal aid road and cost (not including right of way, engineering and overhead expense) $8,747,231.83. The special bridge over the Tennessee River at Trotter's Landing on Highway No. 1 cost $1,115,057.14, which is not included in the above figure. There are also about 25 miles of Tarvia or surface treatment road on Highway No. 1 and the estimated cost of paving this 25 miles with a rigid type of pavement is $655,000. The distance from Nashville to Memphis via this route is 227 miles and when completed will represent an investment of approximately $10,517,000. There are a few miles on this route which are not quite so modern as the new highway No. 100, but at the same time the route is adequate to handle 3 or 4 times as much traffic as it is now carrying. Practically all of the important towns between Nashville and Memphis lie along this route, and for this reason it will probably always carry the bulk of the travel between those two cities, except that part of the traffic which does not have any business to transact at intermediate points.

Another route between Nashville and Memphis via Jackson is Highway No. 100, and No. 20 from Linden to the [fol. 617] Junction with No. 1, about 7 miles northeast of Jackson. These are federal aid roads, constructed in accordance with the latest principles of engineering and highway design. For three miles of this route between Nashville and Centreville cost (not including right of way, engineering and overhead expense), $2,078,513.38, or about $48,-200 per mile. The balance of the route is of the same type of construction and will cost substantially the same amount per mile. This route is little used on account of it traversing a poor and sparsely settled territory with only two towns of any importance, Centreville and Lexington, being located on this route between Nashville and Jackson. Local travel is very light and there are one or two uncompleted stretches of road which make it unattractive to through and interstate traffic. The distance between Nashville and Memphis via this route is 231 miles.

Another route between Nashville and Memphis via Jackson is Highway No. 6 to Summertown, thence by No. 20 to Jackson and No. 1 to Memphis, a total distance of 254 miles.

These are all federal aid roads and, with the exception of a short stretch between Perryville and Lexington, the entire route is paved.

Q. From this same exhibit point out those highways designed and used for through traffic and those primarily for local traffic.

[fol. 618] A. Exhibit No. 5 shows only the State Highway System, proper, of about 7,500 miles, and does not include approximately 60,000 miles of country roads, all of which are used almost entirely for local travel. On the state system proper all roads numbered 1 to 44, inclusive, plus No. 100 and one or two other roads, are federal aid roads and are designed primarily for through traffic. Other roads on the state system numbered 45 to 114, inclusive, are designed and used for local traffic and as connections between the through routes.

Q. To what extent are the through routes you referred to federal aid roads?

A. All of the through routes referred to are federal aid roads.

Q. From your studies on the ground at the Clifton Street crossing please advise if this crossing is congested or dangerous.

A. The approaches to this crossing are practically level, and highway vehicles approaching the crossing from the north or the south have a good view of the track in either direction, and the crossing is protected by the latest approved type of electrically controlled wigway crossing alarm which is audible and visible by night and day. I consider the crossing neither congested nor dangerous.

[fol. 619] Q. Compare the movements over Clifton Street crossing with the train movements.

A. For each train movement over the Clifton Street crossing there are the following highway movements.

Automobiles	71.9
Wagons and buggies and horses	4.6
Pedestrians	47.5
	124.00

Five of the fourteen daily train movements occur between the hours of 10:00 P. M. and 5:00 A. M. when highway travel is at minimum.

Q. Compare the present traffic on State Highway route No. 20 with train movements over the point of the proposed underpass.

A. For each train movement over the proposed underpass there are the following movements over highway route No. 20.

Automobiles	17.5
Wagons, buggies and horses	2.2
Pedestrians	3.7
	23.4

[fol. 620] As I have already stated, traffic on this new federal aid project No. 20 is at the present time very light, primarily because the through route isn't quite completed and it does not serve the local territory. The economic justification, if any, for this air line route is that it will be a definite assistance to through travel as distinguished from local travel.

Cross-examination reserved.
Further deponent saith no.

W. K. TATE, by W. Howard Fish, Reporter.

Sworn to before me when taken, W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 621] W. K. TATE, next witness, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Mr. Tate, you have already been on the stand?
A. Yes, sir.
Q. Please file as exhibit number one to your testimony and briefly comment on a map showing the Perryville Branch of the N. C. & St. L. Railway, the complainant in this case, and the old and the new highways between Perryville and Lexington?

A. This map is prepared by using as a base the Tennessee geological survey maps of Henderson and Decatur counties, which showed the old road between Perryville and Lexington in its correct location with the exception of a few stretches. The new location of highway number twenty is sketched on this map by using automobile speedometer distances and observing very carefully. All the new highway is not shown exactly as it is, but the highway is correctly shown in the vicinity of the various little towns located up and down the Perryville Branch. As measured by an automobile speedometer, it is 8/10ths of a mile from Perryville out to the new highway number twenty, near the end of the toll bridge. The new road passes through the edge of Parsons and misses Beacon by 9/10ths of a mile, and passes by Darden and Chesterfield, and misses Warren's Bluff by approximately one and a half miles.

[fol. 622] Q. Please give the schedule of train operations on the Perryville Branch, and in general the volume of traffic thereon?

A. We operate one train on the Perryville Branch. It is a mixed train, which leaves Lexington at 11:45 A. M. and goes to Perryville and returns to Lexington at 3:30 P. M. This train is operated daily except Sunday. During the month of January, 1932, this train, or rather the train carried on its round trip a total of 136 pasengers, with a gross passenger revenue of $60.43. During the month of December, 1931, it carried 141 passengers with a gross revenue of $65.35. During the month of November, 1931, it carried 103 passengers with a gross revenue of $47.20. The train carries very little freight; the average freight carried on the run would be comfortably accommodated in three or four large trucks.

Q. Is there any switching on the Perryville Branch near Lexington?

A. No sir, there is no switching on the Perryville Branch near Lexington.

Q. In other words, the existing grade crossing of route twenty in and near the town of Lexington, never has a switch engine going backwards and forwards on it?

A. No sir, that crossing is used only in the through movements of the train, and no switching.

Q. And that is one movement each way a day except Sunday?

A. Yes, sir.

[fol. 623] Q. Now on the mail line at Lexington and over the Clifton street crossing which is now route twenty, to what extent is there any switching over that, and why, giving the details?

A. There is some switching over the crossing of the main line with Clifton Street. There is one industrial track located northeast of the Clifton Street crossing on which track are located three oil companies, a coal company, and a cotton gin. It is necessary to switch across the Clifton Street crossing on an average of three or four times per week the year round. This switching is performed by the Perryville Branch crew, the mail line crews do not switch in Lexington, and the Clifton Street crossing is used in these switch movements, usually about nine o'clock in the morning. Occasionally, on an average say once every two or three weeks, there is a switch movement that takes place about four o'clock in the afternoon; but the bulk of the switching is done about nine A. M.

Q. In other words, in addition to the main line trains over the Clifton street crossing, on an average of about four times a week, there is a switch movement in the mornings?

A. Yes, sir.

Q. There is no general switching backward and forward all day, as there are in yards and about terminals?

[fols. 624 & 624a] A. No, sir, the only time when there is any switching is when there are cars to be placed or taken away from this one industrial track, for the industries named.

Q. And the electric wig wag at the Clifton Street crossing works the same for this occasional switching movement, the same as for a main line train?

A. Yes, sir.

Q. You wanted to make one correction from your original testimony?

A. Yes, sir.

Q. Please do that?

A. In my original testimony, in answer to question number seven, I stated that the new highway missed the town of Chesterfield; that was in error, and I want to correct that at this time. The new highway does not miss the town of Chesterfield.

Cross examination reserved.
Further deponent saith not.

W. K. Tate, by J. C. Morelock.

Sworn to before me when given, this April 15, 1932.
J. C. Morelock, Notary Public. (Seal.)

(Tax Notary fee 1.00, paid by complainant.)

[fol. 625] Deposition of W. K. Tate, Filed July 10, 1933.

W. K. Tate, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Mr. Tate, please file and identify as exhibits pictures taken since this particular grade separation project and connecting roadway has been completed, showing when the pictures were taken, where the camera was and just what it shows.

A. I file as Exhibit No. 1 a set of five photographs, Nos. B-4893 to B-4897, inclusive. These photographs were made under my direction on April 27th, 1933, by Mr. H. C. Hill, photographer in the employ of the N. C. & St. L. Ry.

Picture No. B-4893, made with the camera standing at the end of the City-maintained street, looking in a south-easterly direction along the new highway towards the new underpass, corresponds with picture No. B-4451, taken on September 16, 1931, before construction of the new highway and underpass had begun, and filed as Exhibit No. 7 to the testimony in chief of H. H. Cartwright.

Picture No. B-4893, made with camera standing in the highway in the center of the underpass looking in a north-[fol. 626] westerly direction towards the public square in the City of Lexington, corresponds with picture No. B-4463 filed as Exhibit No. 7 to the testimony in chief of Mr. Cartwright.

Picture No. B-4895 made with camera standing in the highway in the center of the underpass looking in a south-easterly direction along the new highway, corresponds with

picture No. B-4460, filed as Exhibit No. 7 to the testimony in chief of Mr. Cartwright.

Picture No. B-4896 made with camera standing on the southeast side of the railroad tracks in the center of the new highway looking at the underpass corresponds with picture B-4466, filed as exhibit No. 7 to the testimony in chief of Mr. Cartwright.

Picture No. B-4897 made with camera standing in the highway looking in a northwesterly direction showing the new underpass corresponds with picture No. B-4467 filed as Exhibit No. 7 to the testimony in chief of Mr. Cartwright.

Q. Please give in detail the traffic studies recently made, giving the time, place and so on, since this project was completed.

A. The new highway No. 20 between Lexington and Linden, including the underpass in question, was opened for traffic on February 16th, 1933. We conducted a 24 hour traffic check covering the period 2:00 P. M. Tuesday May 2nd to 2:00 P. M. Wednesday, May 3rd, and following are the results of this check.

[fol. 627] Clifton Street Crossing

Passenger automobiles	635	
Passenger buses	0	
Trucks	109	
Total motor units		744
Wagons	88	
Buggies	9	
Horses	7	
Total draft units		104
Pedestrians	718	718
Grand total		1566

Highway No. 20 at Underpass

Passenger automobiles	211	
Passenger buses	0	
Trucks	87	
Motor cycles	2	
Total motor units		300

Wagons	19	
Buggies	0	
Horses	18	
Total draft units		37
Pedestrians	73	73
Grand Total		410

[fol. 628] Combined Total Traffic Over Clifton Street Crossing and Highway No. 20

Passenger automobiles	846	
Passenger buses	0	
Trucks	196	
Motor cycles	2	
Total motor units		1044
Wagons	107	
Buggies	9	
Horses	25	
Total draft units		141
Pedestrians	791	791
Grand total		1976

Rail Traffic

Passenger trains	6
Freight trains	6
Total	12

[fol. 629] Of these 12 trains, five passed between the hours of 11:00 P. M. and 6:00 A. M. during which time there was practically no highway traffic.

Following is a check of traffic crossing the toll bridge on Highway No. 20 at Perryville, Tennessee, during the 24-hour period 2:00 P. M., Tuesday, May 2nd to 2:00 P. M., Wednesday, May 3, 1933, as taken from the records of the

Department of Finance and Taxation of the State of Tennessee.

Description	Number
Autos and driver	15
Extra passengers	30
Trucks and buses over 1 ton	8
Auto trailers	1
Total	54

This toll bridge cost $767,537.97 and the gross receipts in tolls from the 24 motor vehicles and 30 extra passengers using this bridge on the above date was only $17.25.

The fact that 337 vehicles passed through the underpass at Lexington while only 24 vehicles passed over the Perryville bridge 24 miles from Lexington toward Nashville, indicates the traffic using the new underpass is almost entirely local in character.

[fol. 630] Q. Please refer to the testimony in this case by Mr. A. M. Hill, witness for the respondents, and analyze in detail his conclusions as to the relative taxes buses and railroads pay.

A. I understand Mr. Hill's testimony in chief consists of an article appearing in the January 1933 issue of the magazine "Bus Transportation" under the caption "Untaxed! Buses paid 7.41 per cent of operating revenue; Railroads 6.6 per cent in 1931." A casual reading of this caption leaves the impression that taxes of like kind and character are compared, but this is not true.

For the year 1931 the railroads paid 6.6 per cent of their operating revenue in general taxes alone. A study of Table 3 of Mr. Hill's article shows that the 7.41 per cent of bus operating revenues paid in so-called "taxes" during the year 1931 is made up of general taxes, special taxes, and gasoline taxes. There is no breakdown of the item of special taxes, but it is common knowledge that practically all of this so-called tax is made up of registration fees. The item of special taxes and gasoline taxes, for the most part, are not taxes at all, but "tolls" for the use of highways, built and maintained at public expense. Railroads provide and maintain their roadways at great expense, but this [fol. 631] expense is not charged to taxes, but to interest on borrowed money and maintenance of way operating ex-

penses. To draw a fair comparison between the taxes paid by railroad and bus companies we must follow one of two plans; (a) compare general taxes only, or (b), designate the expense of providing and maintaining railroad tracks as "taxes" then add in the amount of general taxes paid by the railroads and compare this total with what Mr. Hill calls total bus taxes.

Mr. Hill's table No. 3 shows that buses with a total operating revenue of $51,802,824.00 paid $367,316.00 in general taxes, or seven tenths of one per cent of the total operating revenue. Under comparison (a) it is seen that, so far as general taxes are concerned, buses paid seven tenths of one percent of their total operating revenue, while railroads paid 6.6 percent of their total operating revenue.

I am not advised as to what percentage of the total revenue of all the railroads in the United States is required to provide and maintain their roadways, but it costs the N. C. & St. L. Ry. approximately 26 cents out of each dollar gross. Approximately 7 cents out of each dollar gross [fol. 632] is required for general taxes or a total of 32 cents out of each dollar is required to provide and maintain a roadway and pay taxes. The N. C. & St. L. Ry. is fairly typical of the railroads in Tennessee, hence under comparison (b) buses paid 7.41 percent of operating revenue while Tennessee railroads paid 33 percent of their operating revenue for "taxes" in 1931.

Mr. Hill's table No. 2 is similar to Table No. 2 except that it includes buses engaged in city operation and city and suburban operation. The inaccuracy of the comparisons shown in the caption and in Table No. 3 also applies to the figures in Table No. 2.

Mr. Hill seems to attach considerable importance to his Table No. 1 which indicates that for the year 1931 the special tax per bus was sixteen times the average motor vehicle tax. In computing the amount of the special tax per bus Mr. Hill has added the items of special taxes and gasoline tax as shown in Table No. 2. This comparison is very misleading in that Mr. Hill fails to set out the relationship between the actual highway use received by the bus and that received by the average motor vehicle.

All of the figures which I have seen indicate the average motor vehicle travels approximately 8,000 miles per year. [fol. 633] The average seating capacity of the average passenger automobile is certainly less than five passengers per

car but for purposes of comparison we will assume it is five. According to Mr. Hill's Table No. 2, the average bus has 30.2 seats and travels an average of 31,042 miles per year. It is seen, therefore, that, as compared with the average passenger automobile, the average bus has six times as many seats and travels four times as far as the average automobile. Should it be desired to use average vehicle weights instead of average seating capacity as one of the factors in determining relative highway use, it is found the same relationship applies. The average passenger auto weighs approximately 3,000 pounds while the average bus weighs approximately 18,000 pounds, or six times the weight of the passenger car. Therefore, by either of the comparisons, the average bus received 24 times as much highway use as the average passenger car and pays only sixteen times as much in the way of special taxes.

In Table No. 3 Mr. Hill states the motor bus pays 8.8 cents and in Table No. 4, 9.02 cents in taxes per dollar of its investment as compared with payment by railroads of 1.18 cents per dollar of investment. Here again Mr. Hill includes as taxes both special taxes and gasoline tax, [fol. 634] the proceeds of which go to highway construction and maintenance, and compares the total of these two items plus general taxes of buses with the single item of general taxes of railroads.

Table No. 3 shows a total investment (Less depreciation) in buses amounting to $42,540,919.00 on which a general tax of $367,316.00 was paid. It is seen, therefore, that, while general taxes amounted to eight tenths of one percent of the investment in buses, it amounted to 1.18 percent of the investment in railroads.

In the first paragraph on page 29 of Mr. Hill's article he endeavors to prove that buses paid 2.2 percent of the total cost of highway construction and maintenance in the United States for the year 1931 and 14 percent of the cost per mile of highway which the buses used. To say the least of it, Mr. Hill used some peculiar mathematics to arrive at these figures.

According to his statement there were 45,400 buses in common carrier service in 1931 which paid an average of $719.60 per bus in taxes of all kinds. This would amount to a total "tax" of $32,669,840.00. In the year 1931 he states there was approximately $1,700,000,000.00 expended [fol. 635] for construction and maintenance of all rural

highways. The total taxes paid by buses in 1931, therefore, amounted to 1.9 percent of the total expenditure on rural roads.

There are 3,009,006 miles of rural roads in the United States and Mr. Hill calculated the average expenditure per mile in 1931 was $565.00. According to his Table No. 1, buses paid an average of $78.82; per mile of highway use, or $13.95 per cent of the average expenditure of $565.00 per mile of rural highways of the United States. On the strength of his calculation Mr. Hill states "Thus, each bus paid $13.95 per cent of the total expenditure in construction and maintenance for each mile of highway *used.*"

The joker in this figure is, that while the average expenditure per mile of rural road in the United States was $565.00, it is a matter of common knowledge that practically all of the bus route mileage is over the so-called state highway system on which the average expenditure in 1931 was $2,978.00 per mile. By applying the bus payment per mile to the average expenditure per mile on the type of road that buses use, it is found they actually paid only 2.7 per cent of the total expenditure on the public facilities they were using.

[fol. 636] Mr. Hill's Table No. 5 is reproduced from a study conducted by Mr. Thomas H. McDonald, Chief of the United States Bureau of Public Roads, covering average license tax and gasoline tax collection in Pennsylvania. Having obtained the estimated total collection of these taxes for various classes and sizes of vehicles, together with the average annual cost of construction and maintaining roads in Pennsylvania, Mr. McDonald attempts to set up in the last column of the table the estimated required payment for various sizes and classes of vehicles per year.

It seems to me that the registration tax and gasoline tax may fairly be compared with the "demand" charge and "energy" charge assessed by the utility companies against commercial users of electricity. The demand charge is a flat charge based on the horsepower of motors, and is intended to cover the actual cost of providing facilities and equipment necessary to supply the motors with current. The energy charge covers the actual cost of current consumed. As I understand the purpose of the registration or license fee for automobiles in most states, is to fairly apportion a part of the cost — providing and maintaining highways among the various classes of users thereof, while

the gasoline tax is intended to compensate the state in [fol. 637] direct proportion to the ton miles of highway use. Unfortunately, in the practical application of both of these taxes, the small truck and private automobile is discriminated against in favor of the larger vehicles.

Assuming for the moment that the estimated required payment per vehicle per year as shown in the last column of Table 5 represents a fair and equal distribution of the cost of providing highways, we immediately see that the attempt to relate license tax and gasoline tax results in discrimination as between the various classes of vehicles. For example, if it estimated that a one ton truck should pay $46.00 per year towards the cost of maintaining the highways. It is also shown that a one ton truck will pay approximately $25.00 per year, in gasoline tax leaving $21.00 per year to be paid in license tax. It is estimated that a one and a half-ton truck should pay a total of $58.00 per year, of which $43.00 is estimated to be paid in gasoline tax leaving a total of $15.00 to be paid in license tax. Under the proposed scale, therefore, a one ton truck would pay $21.00 for its license tag, while the one and one half ton truck would pay only $15.00.

Q. Please give registration and license tax collections for trucks, trailers and tractors in Tennessee as of September 30, 1932.

[fol. 638] A. A total number of registrations and total amounts of license tag collections of trucks, trailers and tractors in Tennessee as of September 30th, 1932, separated as between manufacturers' rated capacity was as follows:

	Mfg. rated capacity (tons)	No. of vehicles registered	Total amount collected
	½	6,091	$128,354.41
	1	8,270	159,649.37
	1½	11,744	345,044.47
	2	1,351	65,172.27
Trucks	2½	421	28,737.51
	3	356	23,317.56
	3½	111	9,880.64
	4	11	1,408.78
	5	38	8,029.20
Totals		28,393	$769,594.21

[fol. 639]

	Mfg. rated capacity (tons)	No. of vehicles registered	Total amount collected
	½	709	$4,105.76
	1	706	4,478.68
	1½	227	2,985.63
	2	449	6,165.00
Trailers.....	2½	38	939.38
	3	305	8,215.53
	3½	39	1,242.50
	4	48	2,387.50
	4½	6	412.50
	5	96	8,520.00
	Over 5 tons	20	3,191.25
Totals.....		2,643	42,643.73
Tractors.....		375	7,829.70
Grand Totals.....		31,411	$820,067.64

Q. Compare the taxes paid in Tennessee by the various kinds of automobiles, showing in detail the proportion of the highway burden borne by private automobile owners and that borne by the small trucks, the buses and the larger trucks.

[fol. 640] A. Of the so-called "taxes" paid by motor vehicles in Tennessee the only important sources of revenue to the State are registration fees and gasoline tax.

Total registration fees, sometimes called license tax collections, from motor vehicles in Tennessee during the first nine months for the year 1932 were $3,785,067.00, separated as follows:

Passenger automobiles (including buses)	$2,965,000 or 78.3%
Trucks of rated capacity of 1½ tons or less	633,048 or 16.7%
Trucks of manufactured rated capacity of more than 1½ tons up to and including 2½ tons	93,910 or 2.5%
Trucks of rated capacity of more than 2½ tons	42,636 or 1.1%
Miscellaneous tractors and trailers of all sizes	50,473 or 1.4%

It is seen that passenger automobiles paid by far the largest part, to-wit 78.3 percent, while the smaller trucks with manufacturers' rated capacity of one and a half tons or less paid 16.7 percent. The total collection from trucks of more than 1½ tons manufacturers' rated capacity including miscellaneous tractors and trailers of all sizes amounted to only 5 percent of the total, while the very large trucks or those of manufacturers' rated capacity of more [fol. 641] than 2½ tons paid only 1.1 percent of the total.

It is impossible to say definitely the percentage of the gasoline tax paid by the different classes of motor vehicles in Tennessee. However, the United States Bureau of Public Roads has made a survey of license tax and the average gasoline tax payments of various classes of vehicles in Pennsylvania as reported in "Facts and Figures of the Automobile Industry for 1932," published by the National Automobile Chamber of Commerce. By applying Tennessee license and gasoline tax rates to the result determined in Pennsylvania the gasoline tax payments of various classes of vehicles in Tennessee may be roughly but fairly estimated as follows:

Class of vehicle	Amount and estimated gasoline taxes	
Passenger cars	$8,488,689.00	or 79.2%
Trucks with rated carrying capacity of 1½ tons or less	1,940,337.00	or 18.1%
Trucks with rated carrying capacity of from 1½ tons to 2½ tons	211,955.00	or 2.0%
Trucks with rated carrying capacity of more than two and one-half tons	78,040.00	or 0.7%
Total	$10,719,027.00	100%

[fol. 642] It is seen, therefore, that passenger automobiles and small trucks pay approximately 97.3 percent of the gasoline tax while trucks with manufacturers' rated capacity of more than 1½ tons pay only 2.7 percent.

Figures are not available showing the total amount of gasoline tax paid by buses in Tennessee during the past few years. On page 124 of the 18th By-Annual Reports of the Railroad and Public Utilities Commission of the State of Tennessee, there appears a table giving estimated operating statistics of motor coaches during the years 1928

and 1930 and partial statistics for the year 1929. During the year 1928 it was estimated that bus companies paid a total of $200,000.00 in taxes of all kinds, of which approximately $100,000.00 was gasoline tax. During the year 1930 it was estimated that bus companies paid a total of $300,000.00 in taxes of all kinds, of which approximately $130,000.00 was gasoline tax.

Q. Give in detail the taxes Tennessee railroads paid in 1931 and for what purposes.

A. The railroads in Tennessee paid, in 1931, taxes as follows:

[fol. 643] Property taxes for bridge and road purposes	$716,929.02
Property taxes for school purposes	1,376,951.86
Property taxes for unanalyzed interest and sinking fund	363,362.03
Property taxes for all other purposes	710,145.20
Special payments, State and County and Municipal	42,638.24
Total (this has been paid)	$3,210,026.35

In addition to the above, the railroads paid in the counties and towns, in excess of $50,000 on real estate not used for transportation purposes.

The above statement does not include federal taxes.

Q. Give the amount of property taxes and school taxes paid by common carrier bus and truck operators in Tennessee in 1931 and compare those figures with what the railroads paid.

A. All of the buses and trucks operating in Tennessee as common carriers on the highways, holding certificates of convenience and necessity from the Railroad & Public Utilities Commission of Tennessee, had property taxes levied against them for the year 1931 as follows:

[fol. 644] Bus Operators—real estate tax	$1,938.67
Bus Operators—personalty tax	5,321.25
Truck Operators—real estate tax	618.46
Truck Operators—personalty tax	3,106.39
Total (part of which only has been paid)	$10,984.77

Rail carriers contributed for schools	$1,376,951.86
Bus contributed for schools	3,155.89
Trucks contributed for schools	1,619.19
Both buses and trucks contributed for schools	$4,775.08

Ratio. 288 to 1.

Q. File as an exhibit, in detail, a comparison of the taxes paid by Tennessee railroads and by buses and trucks for the year 1931 to the several counties in the State of Tennessee.

A. I file herewith as Exhibit No. 2 a statement giving ad valorem taxes levied against motor bus, truck and railroad property by counties in the State of Tennessee for the year 1931.

This statement shows the railroads paid a total property tax of $3,167,388.11 as compared with the total of $221,134.77 estimated to have been paid by all buses and trucks in Tennessee.

[fol. 645] In connection with this statement, I wish to explain that the taxes shown as levied against common carrier bus and truck lines were obtained from an actual check of the tax books in the 95 Tennessee Counties. It was impossible to determine the amount of taxes levied against commercial truck operators, as the names of such operators are not known and, if the names were known, the assessment against trucks would be included in the general personalty assessment, which frequently shows only a lump sum to cover the value of all personal property owned.

It is my opinion that the estimated levy against commercial trucks as shown in my Exhibit No. 2, is several times more than the actual levy. This opinion is based on common knowledge that a relatively small percentage of privately owned trucks in Tennessee are returned for taxation.

Q. Give in some detail just what taxes the very large trucks in Tennessee pay and how this compares with what other road users pay.

A. The basis for taxation of the very large trucks in Tennessee is exactly the same as that for the taxation of other road users, that is, each motor vehicle pays registra-

[fol. 646] tion fee, gasoline tax, and is supposed to pay a property tax on the value of equipment, etc.

The registration fee for private passenger automobiles is based on the rated horse-power of the motor. On passenger buses the fee is based on rated horse-power of the motor plus $2.00 per bus passenger seat. The registration fee on trucks is based on rated horse-power of the motor plus a tonnage fee graduated according to manufacturer's rated capacity.

As a matter of fact many trucks consistently carry gross loads of three to five times the manufacturers' rated capacity. During the past few years the manufacturers have consistently reduced the rating on trucks in order to avoid the payment of registration fee, so there is no definite relationship between the rated capacity and the actual load carried.

Each motor vehicle using gasoline pays exactly the same tax per gallon. In proportion to their use of the highway the gasoline tax paid by the larger trucks is much less than that imposed upon the operator of the small car or truck of reasonable size. The big truck weighing with its load ten tons or more running five miles per gallon of gasoline, gets fifty ton miles of highway use, or the equivalent of [fol. 647] moving one ton*e* fifty miles, for the seven cents gasoline tax paid to the state. The ordinary passenger car, weighing with passengers less than 1½ tons, operating fifteen miles to the gallon of gasoline, gets 22½ tons miles or less than half as much use of the highway for its seven cents.

Since all property in Tennessee is required to be assessed for taxation at its cash value, there is no difference, or should be no difference, in property tax on the large vehicle as compared with that of other road users.

In addition to the above named taxes, motor vehicles using the highways in commercial transportation for profit are required to pay a small mileage tax, and those companies holding certificates of convenience and necessity issued by the Tennessee Railroad and Public Utilities Commission are required to pay a small annual inspection fee to cover the cost of supervision.

During the year 1932 the mileage tax yielded a gross revenue to the state of approximately $100,000.00 of which approximately $40,000.00 was paid by trucks and $60,-

000.00 by buses. As provided by law, the mileage tax collected from intrastate operators goes to the general fund [fol. 648] while that collected from interstate operators goes to the highway fund. After deducting the expense of collection, the net revenue to the State for the year 1932 was approximately $40,000.00 for the general fund and $18,000.00 for the highway fund. For the year 1932 trucks operating for hire over the highways in Tennessee were required to pay the following amounts for each mile traveled over the State highways:

Manufacturers' rated capacity	Rate per mile
Over 1½ tons to 3 tons	½ cent
Over 3 tons to 5 tons	1 cent
Over 5 tons to 8 tons	3 cents
Over 8 tons	5 cents

As a matter of record, there was not a single truck of manufacturers rated capacity of more than 5 tons registered in Tennessee in 1932 and most of the trucks paying compensation under this act fall within the first group. A 2 ton truck paid the same rate per mile as a three ton truck, an obvious discrimination in favor of the larger trucks.

A new mileage tax law was enacted by the 1933 legislature and, under the new law for hire trucks of manufacturers' rated capacity of from one ton up to and including 3 tons pay one-half cent per mile, while all trucks of over [fol. 649] three tons rated capacity pay 1 cent per mile. Practically all trucks operating for hire in Tennessee fall within the group of one ton to three tons rated capacity, and, under the new law, the discrimination in favor of the larger trucks is more obvious than ever.

Q. Compare what the railroads in Tennessee pay with what certificated trucks for hire in Tennessee pay?

A. With the exception of the insignificant property tax, practically all of the so-called "taxes" paid by certificated trucks in Tennessee are really "tolls" for the use of highways, and not true "taxes" which Webster's Dictionary defines as a "forced contribution of wealth to meet the public needs of government."

Certified trucks in Tennessee pay the State in what they call "taxes" between six and eight percent of their gross

income. But of the so-called "taxes" practically all goes to make a contribution towards the large cost of providing and maintaining the public highways, bridges and streets. Railroads pay about the same percent of their gross income as taxes, and all of it is applied to the general purposes of government. In addition, railroads must, themselves, provide and maintain their tracks and terminals at a cost of about 26 percent of their gross income. Trucks for hire, [fol. 650] paying almost nothing for any purpose except for the highways on which they run, receive from the State everything that railroads do.

In other words, commercial motor vehicles and railroads each pay to the constituted authorities in taxes of all kinds about the same percent of their gross revenue—roughly about 7 cents out of each dollar—but what they get in return is entirely different.

The railroads get usual and ordinary government service, nothing else. Competing trucks get everything that railroads do, and in addition the use, without any further charge, of a roadway built and kept up by the public. To get the usual service of government, and also a roadway on which to operate, costs Tennessee's railroads about 33 cents out of each dollar of gross revenue, or about five times as much as it costs competing trucks.

Following is a comparison of the payments made in Tennessee in 1931 by railroad and by certificated trucking companies for general functions of government:

[fol. 651] Taxes paid for	By railroads	By certificated trucks for hire
Schools	$1,376,951	$1,619
Roads and bridges	732,018	843
For interest and sinking fund on road, schools and other bonds	363,362	428
County governments	432,027	508
City governments	278,117	327
Total for these purposes	3,182,475	3,725

Q. Give in some detail the burden placed upon the general public and the ordinary motorist because of the very large trucks on the highways.

A. On account of their excess size and weight, the operation of large trucks on Tennessee's highways is a constant source of danger and inconvenience to the great ma-

jority of ordinary highway users, and a study of the report of fatal accidents prepared by the Tennessee Highway Patrol shows that the number of fatal accidents in which trucks are involved is out of all proportion to the number of trucks registered. During the past tens years the state of Tennessee has expended approximately $200,000,000 in the construction of its state highway system of approxi-[fol. 652] mately 7,500 miles. It is conservatively estimated that the excess cost saddled upon the ordinary motorist of Tennessee due to the operation of a relatively few excessively large and heavy vehicles is in the neighborhood of $40,000,000.00. This tremendous excess cost is due almost entirely to the operation of huge vehicles using the highways for commercial purposes and this commercial use is not in the public interest either in the sense that it furnishes transportation to communities which otherwise would have no adequate transportation or that it yields benefits commensurate with the expenditure of public funds it necessitates.

Highways which were constructed a few years ago, of a standard which was thought to be sufficient to withstand truck traffic, are rapidly being pounded to pieces under the punishing traffic of a few heavy vehicles. In an endeavor to construct roads of sufficient strength to withstand the effect of trucks of increasing size and weight, we have steadily increased the width and thickness of our pavements with the result that after tens years of road construction and the expenditure of approximately $200,000,000.00, we have in Tennessee only 300 miles of highway which, according to the recent statement of the Chief of the United States Bureau of Public Roads, is sufficient to withstand heavy truck traffic.

[fol. 653] Q. What is the present fiscal situation as to the highway debt in Tennessee?

A. The State of Tennessee owes approximately $90,000,000 of bonds and notes issued to pay for highways and highway bridges. The total is composed of approximately $47,000,000 of notes issued to pay for State highways, approximately $29,000,000 of county bonds for which the State has assumed the payment of interest and principal and approximately $14,000,000 of special bridge bonds issued to build toll bridges.

No adequate provision has been made to meet the interest and sinking fund requirements and, at the present rate

of deterioration a large part of our highways will be worn out and destroyed long before the bonds shall be retired. As concerns the State issue of $47,200,00- of short term notes, I understand that no principal payment has ever been made, and as the notes mature it has been necessary to renew them at higher rates of interest.

Q. Differentiate in some detail the difference in width, thickness and cost between highways for ordinary public travel and highways used for general commerce, particularly inter-county and inter-state commerce.

A. Concrete roads sixteen feet wide and five inches thick are entirely adequate for ordinary public travel. The ordinary automobile is six feet wide, and two such vehicles have a total clearance of four feet when meeting or passing [fol. 654] on a sixteen foot pavement. Large trucks are eight feet wide and, in order to provide four feet of clearance for two such vehicles it is necessary to construct a pavement twenty feet wide, and to withstand the heavy load of such trucks it is necessary to build a slab nine inches thick at the edges and seven inches thick at the center. This is the type of pavement which the United States Bureau of Public Roads says will not be destroyed by truck traffic and, in order to receive Federal Aid, the State of Tennessee must conform to this standard, which adds a tremendous burden to the ordinary motorist of the State.

Insofar as the new highway between Nashville and Lexington is concerned, I am not aware of any facts which justify the expensive type of construction used. As has been previously testified there are no towns of any great importance through which the highway passes, the country is poor and sparsely settled and now endowed with natural resources of any consequence. The new route is closely parallelled by State Highway No. 1 between Nashville and Memphis, which is adequate to take care, not only of all present traffic, but of the reasonably to be expected increase [fol. 655] of many years.

I do not mean by this statement that the territory served by the new route should not have been *good* highway facilities, but I do mean that adequate highway facilities might have been provided at a great deal less expense to the State. An excellent surface treatment road could have been built between Nashville and Lexington for certainly not to exceed $15,000.00 per mile. This type of road would

adequately serve all the reasonable needs of the communities along its route and save the taxpayers of the State some $20,000 per mile or more as compared with the present type of construction.

If the new road was necessary in order to relieve traffic congestion on Highway No. 1, or if it saved a considerable mileage between Nashville and Memphis and served important towns along its route, the expensive type of construction might be justified. However, none of these conditions obtain, and it is actually four miles farther from Nashville to Memphis via Highways Nos. 100 and 20 through Lexington than via No. 1.

Q. Now that this underpass at Lexington and the connecting roads are all completed, to what extent has Clifton Street crossing been relieved of traffic, local or through?
[fol. 656] A. The new concrete highway No. 20 between Perryville and Lexington was opened for traffic on February 16, 1933. Highway No. 100, the connecting link between Highway No. 20 and Nashville is not yet paved throughout, but the unpaved portions have a well maintained gravel surface.

As has been previously testified, during the 24 hour period 2:00 P. M. Tuesday, May 2nd, to 2:00 P. M. Wednesday May 3rd, a total of 1566 traffic units used the Clifton Street crossing at Lexington while only 410 traffic units used the new underpass. Had the underpass not been constructed all of this traffic, or a total of 1976 traffic units, would have used Clifton Street crossing. In other words—the new underpass has diverted only 20.7 percent of traffic from Clifton Street, and the traffic so diverted is as follows:

Motor units	28.6 per cent
Draft units	26.2 per cent
Pedestrians	9.2 per cent
Total traffic	20.7 per cent

Q. Give the exact alignment and grade of Clifton Street crossing, the angle at which it crosses the railroad tracks and now that crossing is protected.
[fol. 657] A. The main track of the N. C. & St. L. Ry., at the Clifton Street Crossing is on a three degree curve and a one-half of one percent grade ascending toward Memphis.

The highway is straight, and on a 1.9 percent grade descending westwardly from the track and a 2.4 percent grade descending eastwardly from the track. The highway crosses the track at an agle of 86½ degrees. The view of the track is not obstructed in either direction, and the crossing is protected by a modern automatic electric wig-wag crossing alarm, audible and visible by day and night.

Q. How near is this Clifton Street crossing to the railroad depots, freight and passenger, and what switching if any, is there over this crossing and for what purposes?

A. There is only one depot at Lexington, which is a combination freight and passenger station. It is 1512 feet from the center of the depot to the center of the Clifton Street crossing. Trains normally pass over this crossing in switch movement approximately twice a week. There is only one short track east of the Clifton Street crossing, which serves a couple of oil companies, a small cotton gin and a coal yard. All of the other tracks at Lexington are located west of the crossing, and they are so arranged that [fol. 658] it is not necessary to operate over the crossing in ordinary yard switching.

Q. To what extent is it necessary in ordinary railroad operations to block this Clifton Street crossing and to what extent is it actually blocked by standing trains or standing cuts of cars?

A. In ordinary railroad operation it is not necessary to block the Clifton Street crossing at all except during the actual passage of trains. There is an average movement of twelve trains in each 24 hours with an occasional switch movement once or twice per week. As previously testified, the yard and depot at Lexington are so located that it is not necessary to foul the Clifton Street crossing while performing the ordinary yard switching or making up the Perryville Branch trains.

Q. From the operating standpoint, including cost, what benefit is there or will there be to the N. C. & St. L. in the construction of this underpass.

A. None. The same precaution must be exercised by trains in approaching the Clifton Street crossing, and the maintenance of the crossing itself and the electric crossing signal is just as burdensome now as before the underpass was built. If forced to participate in the cost of constructing this underpass, its construction will be a positive

[fol. 659] detriment, in that funds will be diverted from improvements which could otherwise be made which would effect economies in operation. Our General Manager concurs in this view.

Q. Give the exact train service on the Perryville Branch?

A. The train service on the Perryville Branch consists of one mixed train making one round trip daily except Sunday. This train is scheduled to leave Lexington at 11:45 A. M. and arrive at Perryville at 1:25 P. M. and on the return trip leave Perryville at 1:45 P. M. and arrive Lexington 3:30 P. M.

Q. Was the location of this underpass suggested by the N. C. & St. L. Ry. or approved, giving the details as to that?

A. The N. C. & St. L. Ry. had nothing whatever to do with the policy as to the construction of this underpass. It was not consulted as to the necessity for an underpass, or its location. The State and Federal authorities decided there should be an underpass, and selected its location, and after these matters were determined the highway authorities conferred with the railroad about matters pertaining to the safety of train operation and the actual construction of the project.

[fol. 660] Q. On this route in question, namely, Nashville to Centerville, to Perryville, to Lexington, give the names and population of the various towns for the last census?

Nashville, Tennessee	153,866
Bon Acqua, Tenn.	420
Centerville, Tenn.	943
Linden, Tenn.	539
Perryville, Tenn.	128
Parsons, Tenn.	915
Beacon, Tenn.	131
Darden, Tenn.	210
Chesterfield, Tenn.	122
Lexington, Tenn.	1,823

Cross-examination.

By Gen. Beeler:

Q. What experience have you had in highway construction?

A. None.

By Mr. Hall:

Q. You are a civil engineer, are you not?

[fols. 661-665] A. Yes.

Q. In general, what studies have you made of highway problems, including engineering, in the last several years?

A. In the past several years a considerable part of my time has been devoted to the study of highways problems in Tennessee, not from the standpoint of the actual construction or supervision of construction but to develop information from various sources as to different types of construction, the relative cost of various types of construction, maintenance and other highway problems.

Further deponent saith not.

W. K. Tate, by W. Howard Fish, Reporter.

Sworn to before me when taken. W. Howard Fish, Notary Public. My commission expires Jan. 6, 1936. (Seal.)

[fol. 666] CHAS. BARHAM, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Mr. Barham, please state your name, age and railroad experience and your present official position with the N. C. & St. L. Railway?

A. My name is Charles Barham. My residence is Nashville, Tennessee. I am 64 years of age, and since March 1st, 1928, have been vice-president and traffice manager of the Nashville, Chattanooga & St. Louis Railway in charge of traffic. I have been in railroad employ since 1886, and with the N. C. & St. L. since 1898, with the exception of one year, during which I served with the Food Administration of the United States Government, and a period of five years when, while on leave of absence from the N. C. & St. L. I held the position of Chairman of the Southern Freight Association, and its executive committee. My service with the Nashville, Chattanooga & St. Louis Railway began as chief clerk to the traffic manager, and I filled the positions

of Assistant General Freight Agent and General Freight Agent prior to my election to the office I now hold.

Q. Describe generally the lines of the N. C. & St. L. showing where it operates, giving its main and branch line mileage, and when and where chartered.

[fol. 667] A. The Nashville, Chattanooga & St. Louis Railway is a corporation chartered by Chapter 1 of the Acts of Tennessee of 1845-46. It has its principal office at Nashville in Davidson County. It is a common carrier by railway, and operates lines engaged both in interstate and intrastate commerce. These are situated in the States of Tennessee, Kentucky, Alabama and Georgia. It owns or leases 689.94 miles of main line, 501.74 miles of branch line, and has trackage rights over 11.71 miles, making a combined total of 1,203.39 miles of main track operated. Of this mileage 42.10 per cent consists of branch lines. In Tennessee it operates 481.94 miles of main, and 394.41 miles of branch lines, a total of 876.35 miles, 45.01 per cent of which is branch.

Q. Is Exhibit No. 1 to the original bill in this cause an accurate map of the present N. C. & St. L. System?

A. The exhibit consists of an official highway map of Tennessee on which the lines of the N. C. & St. L. are correctly indicated in red.

Q. What per cent of the total business of the N. C. & St. L. is interstate?

A. The proportions of interstate and intrastate business handled by this Company vary from month to month and from year to year. The interstate proportion has increased in recent years and continues to grow. The reason for this change in relationships is the relatively greater loss of intrastate traffic to other modes of carriage. For the calendar year of 1931, of the total business done, 87.761 per cent freight and 76.873 per cent passenger, was inter-

[fol. 668] state. The total percentage of combined interstate traffic, freight and passenger, was 86.654 per cent of all traffic.

Q. To what extent are its varied lines, main and branch, highways of interstate commerce?

A. All the lines of the Nashville, Chattanooga & St. Louis Railway, including its entire mileage, both main and branch line, are largely used as highways for interstate commerce.

Q. Describe briefly that portion of our line running through the county of Henderson and the town of Lexington, giving in some detail the freight originating at or destined to Lexington?

A. The main line of the Nashville, Chattanooga & St. Louis Railway, or rather that part of the main line which extends from Bruceton, Tennessee, to Memphis, Tennessee, and which in turn is a part of the main line between Memphis, Nashville, Chattanooga and Atlanta, runs through Henderson County, Tennessee, and the town of Lexington. The N. C. & St. L. also owns and operates a twenty-four mile branch, known as the Perryville Branch, extending from Lexington, in Henderson County, to Perryville, in Decatur County. No important industries are located either in Lexintgon proper or in Henderson County, nor is the territory highly developed from the standpoint of agriculture or dairying. The territory really originates little freight. There is some cotton, small quantities of forest products, and in recent years some progress has been made in the [fol. 669] growing of tomatoes. The inbound freight consists chiefly of gasoline, coal and building materials. There are small quantities of package freight, but it is not a significant item, and within the last four of five years it has become of decreasing importance, due to the competition of vehicles operating over the highways.

Q. To what extent approximately is the traffic on our road through Henderson County interstate?

A. It may safely be said that ninety per cent of the total traffic of the N. C. & St. L. through Henderson County is interstate. If anything the percentage is even greater.

Q. What trains do we now operate through Lexington?

A. The regularly scheduled train operations through Lexington, that will go over the proposed underpass, consist of three passenger, three fast *fast* freight, and one local freight train daily in each direction. There is also a mixed train daily in each direction over the Perryville Branch, but this train will not go over the underpass. In order of time, the southbound through arrivals at Lexington are 12:01 A. M., 4:02 A. M., 7:30 A. M., 7:48 A. M., 11:26 A. M., 6:42 P. M., 7:56 P. M. Northbound—12:01 A. M., 12:25 A. M., 2:25 A. M., 10:22 A. M., 1:40 P. M., 2:55 P. M., 4:57 P. M. The branch train leaves Lexington at 11:45 A. M. and arrives at 3:30 P. M. The two branch trains shown,

and the two main line trains of 7:30 A. M. and 1:40 P. M., are not operated on Sunday. Further classifying the trains that will go over the proposed underpass, it will be found that five operate through Lexington between midnight and six A. M.; four between six A. M., and noon; [fol. 670] three between noon and six P. M.; two between six P. M. and midnight. A statement showing the present schedules is herewith filed as part of this evidence, Exhibit No. 1.

Q. How many trains and at what hours now pass over the point within the city limits of Lexington where the proposed underpass is to be built?

A. All the trains referred to in the preceding answer, with the exception of those designated as Perryville Branch trains, now pass over the point where the proposed underpass is to be built. The answer already given shows the scheduled time of each train.

Q. As to the two decades ending approximately 1900, what was the relation between public roads and railroads?

A. During the period named, public roads, other than toll roads, were built and financed by local authorities, and the funds were locally raised. These highways were used almost exclusively for local travel—that is, between the interior country and the nearest railroad station, assuming the transportation of either persons or property over considerable distances was desired. There was no long distance movement of persons or property over the highways themselves. The automobile had not been perfected, and our highways were used for horse-drawn vehicles, by those riding horseback, for the driving of stock, but not for mass transportation. The highways during this period were channels between the farm, or interior community, and the [fol. 671] railroad. The railroad supplemented and completed such transportation as was done on the highway, or served to bring persons and property to or from points at which the completion of the journey over the highway could begin or end. Of course, during this period toll roads were operated in many parts of the State, financed and built for profit by turnpike companies, who derived their revenue from toll collections. But the movement of person and property over these roads for long distance was practically unknown, being necessarily limited by the character of vehicle then alone available for use.

Q. What is that relation today?

A. Today our public roads are financed to a great extent by the State and Federal Governments as a part of a nation-wide system of through highways, running from coast to coast, from Canada to the Gulf, and intersecting every part of the country between. So built and financed, they are in fact rights of way obtained and improved to the point of completion through the use of public funds. They are then thrown open without adequate charge, or any charge, to those desiring to use them as a place of business in competition with railroads which are required to obtain, improve and complete their own rights of way, maintain them and pay taxes on the values involved. To paraphrase Lord Ellenborough, we have permitted "The people's highway to be converted into a garage."

[fol. 672] Q. Comment on the construction of the technical state highway system in Tennessee, and federal aid roads in Tennessee in their relation to railroads and the effect in general on railroad business.

A. The so-called State Highway System in Tennessee includes approximately 7,500 miles of state aid and federal aid roads. This mileage is that understood to be covered by the technical term "State Highway System." The development and building of this State Highway System has now progressed to the point where, substantially speaking, every mile of rail line in Tennessee is paralleled by an improved highway. It is not possible to give exact figures or to show in precise terms the amount of business deflected from rail carriage through the use of these public roads. It has been, and is, substantial; further, it continues to grow in accelerated volume. Studies we have made justify the statement that due to the competition of highways, the rail lines in Tennessee have lost not less than eighty per cent of their passenger traffic. They have lost certainly not less than seventy-five per cent of their distributive freight traffic, meaning the ordinary less than carload traffic distributed from jobbing points such as Memphis, Nashville, and Chattanooga within their respective zones, say up to 150 or 200 miles. There has also been a formidable loss of carload business particularly the higher types on which the freight rate is properly something more than that [fol. 673] charged on cheaper goods, between the same points. While the volume of this high-type traffic is not so

great as that of traffic in the lower grades, it is, weight for weight, the most profitable business a railroad can do. Railroad losses in this class have been formidable. Highway hauls are sometimes made over one thousand miles, and are easily possible on freight in the higher classes. For example, rayon and cellophane have been trucked from Old Hickory, near Nashville, to New York; drugs and chemicals from New York, to Memphis; cotton fabrics in large quantities from mills in Georgia to tire factories in Ohio—in fact the number of instances could be multiplied almost indefinitely.

The latest, and from the standpoint of the railroads the most important, development is the tremendous increase in the handling of carload freight over the highways, freight relatively lower in grade. During the present cotton season there has been an enormous movement of that commodity by trucks to Memphis, to Nashville, to Huntsville, and even greater distances. Sweet potatoes from West Tennessee have moved largely by truck. An agent of this Company counted on Highway No. 1, between Nashville and Bruceton, twenty-two trucks passing within a period of three hours loaded with this commodity. Coal has been trucked, but, of course, for comparatively short distances. This is true even of stone and sand. These low grade commodities have not been trucked for long distances, but the only reason is that *their* cannot profitably be done by the highway operator. The present situation is, [fol. 674] that business, most attractive in revenue, has been diverted from rail carriage, leaving low grade, heavy, commodities on which the revenue possibilities are not so attractive. Obviously this situation is alarming and not only to the rail carriers themselves for eventually they must affect the public as well. If low grade traffic only remains to the railroads because that traffic cannot profitably be handled by trucks, and if the railroads are to live, they must increase their rates on this particular business. In other words, between points where trucks cannot compete because of distance, on commodities such as lumber, logs, wood, coal, sand, stone, bulk grain, gasoline, etc., the public must pay transportation costs relatively and actually higher than those that now prevail. Nor will this condition be of the railroad's choosing. It will be compelled by conditions beyond their control.

Q. Referring specifically to Tennessee, to what extent have federal aid projects carried out the express intention of the Federal Highway Act of giving aid to "an adequate and connected system of highways interstate in character"?

A. There are 108 designated routes in what is technically known as the State Highway System of Tennessee. As a whole, this state system includes approximately 7,500 miles, of which 4,125 miles, in forty-six or more routes are comprised of federal aid roads. These federal aid roads [fol. 675] are main arteries of travel. They either begin or terminate at the state line, or are important links between through highways designated for interstate traffic. All this will be made plain by the map already filed. The fact of an adequate and connected system of interstate highways is common knowledge. It is daily evidenced by the never-ending stream of private, contract and common carriers of freight and passengers operating over these roads.

Q. Have you been over this federal aid road between Linden and Lexington; if so, comment on the road and the territory from the traffic standpoint, both highway and railroad.

A. I have been over the new federal aid road between Linden and Lexington, as a whole, and over certain parts many times. I have been over the entire road between Nashville and Lexington as projected via Centerville and Linden, that is, Highway No. 100 from Nashville to Linden, and Highway No. 20 from Linden via Perryville, to Lexington. The highways both between Nashville and Linden and between Linden and Lexington are understood to be designed and built in accordance with the best engineering standards. The pavement is twenty-five wide, the subgrade thirty-three feet. The maximum gradient is 5 per cent; the maximum curvature 8 degrees; the minimum vision clearance five hundred feet. Between Linden and [fol. 676] Perryville the concrete surface is in place; between Perryville and Lexington the grade is complete, and it is understood the surface when laid will correspond in type with the remaining part of the road—in other words, the latest type of rigid base pavement. Undoubtedly, when complete, it will be the equal to any highway in Tennessee. This new highway traverses a sparsely settled territory, one poor and without important natural resources. There

is no industrial development of worthwhile sort, and scarcely any, regardless of sort. The section, as a whole, neither originates nor receives traffic in volume. This statement, while broad and intended to be comprehensive, is confirmed by the fact that the N. C. & St. L. Railway has made consistent and heavy losses in the operation of its Perryville Branch between Lexington and Perryville. In the present day of intensive highway use, it finds additional confirmation in the fact that no common carrier of freight or passengers now operates over the highway between Linden, Lexington and Jackson. There could be no clearer evidence of the poverty of the section than its inability to support even a bus or truck line operating locally.

Q. Has this new and expensive highway, including the underpass in question, any economic justification from the standpoint of local travel, giving the reasons for your answer?

A. I am of the opinion that there is no justification for the construction of this new and expensive highway and [fol. 677] underpass, and certainly so if that decision is based upon any consideration of local travel. The new road between Lexington and Perryville almost exactly parallels an existing gravel maintained road fully adequate for all purposes of local travel. It shortens the distance scarcely at all, and as to location, the only benefit is the elimination of certain curves not in themselves difficult or particularly objectionable in view of the volume of travel. As to the road between Perryville and Linden—the population of Perry County, of which Linden is the county seat, has steadily decreased in recent years. In 1910 it was 8,815; in 1920, 7,765; in 1930, 7,147. From these figures it must be apparent that the county is financially unable to build the type of road now under construction. By "under construction" reference is directly made to that part of the road east of Linden in the direction of Centerville. As a matter of fact, the road between Linden and Perryville, as it stands today, was built, paved and completed, not by the county, but by the State. The new road west of Perryville, and between that small river town of Lexington, runs in part through Decatur County. In 1910 the population of Decatur County was 10,093; in 1920, 10,198; in 1930, 10,106. This extreme variation of only 105 people in twenty years evidences its condition, financial and other-

wise. Taking the entire route between Linden and Lexington, there is no movement either of freight or passengers, or both combined, that requires an expensive type of high- [fol. 678] way construction, neither are there evidences of potential wealth or patent resources that requires the future be safeguarded through a present development of the sort described. As a matter of fact, with the exception of Linden, with its population of 539, all the villages and towns along the route in question are now adequately served by rail.

Q. To what extent have the users of the highways in Tennessee been called upon to contribute to this particular grade separation project at Lexington, or elsewhere?

A. It is my understanding that no direct tax or contribution has ever been assessed against highway users for this or any other Tennessee grade separation project. The funds used, other than those secured from the railways in interest, are had from gasoline taxes, registration fees on automobiles, federal aid, etc.

Q. Give a brief history of the public highway system in Tennessee until 1920, and state how, in general, public highways were financed.

A. This requires a division of the time into two periods, one prior to 1915, the other subsequent thereto. In the first of these periods, i. e., prior to 1915, all road building and road maintenance in Tennessee was provided for by taxes on property and by requiring male citizens of certain ages to work on the roads a prescribed number of days annually, or avoid such services by commuting into a cash payment, usually at the rate of 75 cents per day. The first change in this method is found in the beginning of automobile registration fees as provided for in Chapter 8, Acts of 1915. [fol. 679] These fees were then placed at $7.50 for an automobile of more than four passengers, $5.00 for an automobile of four passengers or less, and $5.00 for a truck. The funds so obtained were set aside for highway purposes by Chapter 100 of the Acts of that year.

In 1916 the Congress of the United States provided aid for each of the several states, to be used in the construction of rural post roads. This act was approved July 11, 1916, and is contained in 39th United States Statutes at Large, Page 355. Its provisions were assented to by the State of Tennessee. Very little federal aid was, however, received by the State of Tennessee until after 1920.

As shown by Chapter 73, Acts of 1917, a new basis of motor registration fees was then established, based on horse power and tonnage. By Chapter 74, Acts of 1917, a state tax on property was imposed for highway purposes,—this amounted to one mill on each dollar of assessed valuation. In this Act it is also provided that the State will aid the counties in the construction of roads, thereafter, however, to be maintained by the counties.

In 1919 further changes were made. Under Chapter 149 of the Acts of that year, the State Highway Department was reorganized. It is there provided that the fees from automobile registration are to be split, one-half for the State, one-half to the several counties. The State tax on property was, however, continued. Under the provisions [fol. 680] of these Acts (1919) the State Highway Department and the several counties were authorized to make agreements for the division of road construction costs with, however, not more than fifty per cent to be paid by the county.

In addition to the foregoing, by Chapter 175 of the Acts of the same year, 1919, an amendment was made to Chapter 26, Acts of the first Extra Session of 1913, whereby counties were authorized to issue bonds for highway purposes and to pay their part of the cost of state highways within the limits of such counties.

As the combined result of the Acts above referred to, and by approximately the year 1930, the State of Tennessee had constructed and financed a reasonably adequate system of roads, certainly a system reasonably adequate from the standpoint of local needs.

Q. To what extent have the railroads, and particularly the N. C. & St. L., contributed to the cost of constructing such public roads?

A. Prior to 1920 the funds used in the construction and maintenance of highways were, for the most part, obtained through the medium of ad valorem taxes, or through the sale of bonds which it was proposed to pay finally through the collection of ad valorem taxes. As the N. C. & St. L. is the largest, or certainly one of the largest, taxpayers in practically every county through which it operates, through these taxes it contributed proportionately to the construction of such roads, and necessarily participated largely in [fol. 681] the costs of the construction referred to. But it is only fair, here, to take into account the fact that the

roads so constructed, that is, prior to 1920, were for the most part lateral to the stations and line of the N. C. & St. L. and, therefore, valuable feeders, both to that Company and to other railroads in the state. As will be later seen, this condition of feeder use has radically changed.

Q. Since 1920 and at the present time, how are the public highways in Tennessee financed and regulated?

A. Since approximately 1920, as the result of the various statutes, there has been created the present Department of Highways and Public Works of the State. Through this Department the State has taken over the construction and maintenance of public highways, i. e. roads going to make up the State System. This is currently financed, except for the aid it receives from the National Government, practically from state funds exclusively. These state funds are derived from taxes on gasoline, special motor vehicle taxes, and from the proceeds of bonds and short term notes. As to Government, or so-called Federal Aid, obviously the Federal income tax is a principal source of the revenue from which it is had.

Q. Give the total highway mileage in Tennessee as of the present time, dividing the same into federal aid roads, the State Highway System proper, and other roads comparing [fol. 682] the cost of each type, the character of construction and the functions of the several types.

A. The State reports list a total of some 67,929 miles of public roads in Tennessee, and designates approximately 7,500 miles as comprising the so-called State System. Of these 7,500 miles, approximately 4,125 miles are designated as federal aid roads.

In those cases where federal aid is used, the location and type of road must be approved by the Federal Department of Highways. The general specifications of that department, covering what may be termed a standard road, provide for a two traffic lane structure, with a 20-foot pavement, a 33 foot subgrade, a maximum grade of 5 per cent, a maximum curvature of 8 degrees, and vision limit of 500 feet. At times it is permitted, especially where physical conditions enter, to exceed the maximum grade and curvature, and to shorten the sight distance.

Two types of pavement are now used in Tennessee in those cases where federal aid is given:

(1) Cement concrete, 20 feet wide, with a section 8 inches

thick at the edge, 6 inches in the center, built to withstand a compression load of 3,500 pounds per square inch.

(2) A cement concrete base with a section 7 inches thick on the edge, 5 inches in the center, built to withstand a compression load of 2,000 pounds per square inch, and having an asphalt top from 1/2 to 2-1/2 inches thick. It is the theory that because of the cushion effect, roads of the as-[fol. 683] phalt type will carry a load as heavy as the first.

Both types are designed for heavy traffic, and the cost of construction, including sub-grade and pavement, ranges anywhere between $35,000 and $60,000 per mile.

The above are federal aid roads. Less important state aid roads are built of traffic-bound macadam with mixed-in-place asphalt or tar surface treatment, and cost about $15,000 per mile, including sub-grade and surface.

There are also county roads of various types. These begin with graded earth and include gravel roads, surface treatment roads and roads with hard surface pavement. Obviously, the cost varies greatly with the type and specifications used as well as the characteristics of the country traversed.

Q. Give separately for the ten years ending December 31, 1931, the amount expended on public roads in Tennessee by the Federal Government, the State of Tennessee itself, and by the several counties and cities.

A. The figures here given are taken from the Statistical Abstract of the United States, the last issue of which was for 1931. The amounts shown are those available for rural road purposes in Tennessee, and include state, counties, townships and districts, all resources:

[fol. 684]

Year	Funds available
1921	$12,697,000
1922	11,243,000
1923	14,656,000
1924	15,167,000
1925	31,124,000
1926	23,354,000
1927	27,152,000
1928	37,798,000
1929	42,882,000
Total	$216,073,000

The above figures cover a nine year period only. There are no figures presently available for the year 1920 or years subsequent to 1929, those for that year being the latest, so far as I know.

Q. Of the sum so expended, how much has already been actually paid for, and how much is the result of sale of bonds or notes now outstanding by the State, the several counties and the several cities?

A. So far as I know this information cannot be had except through the personal inspection of state records as well as the records of each county and municipality. The Statistical Abstract of the United States for the year 1931, already mentioned, shows that in 1929 the funds available for road purposes were derived from the following percentage sources:

[fol. 685] Bonds and notes	43.9 per cent
Federal aid	3.3 " "
Motor vehicle fees and gasoline tax	13.5 " "
Other taxes and appropriations	13.8 " "
All other sources	25.5 " "
Total	100.00 " "

It is understood that the item of 25.5 per cent shown as from "all other sources" includes certain balances brought forward from the previous year, as well as miscellaneous income and funds transferred. The last two items "other taxes and appropriations" and "all other sources, aggregating 49.3 per cent, will obviously include not only the items just mentioned, but such amounts as were derived from ad valorem property and like taxes.

Q. Take the calendar years 1930 and 1931 as typical examples, and show exactly how much the N. C. & St. L. has paid in taxes levied specifically for road purposes.

A. The statement of its taxes for the calendar year 1931 is not complete, but for the calendar year 1930 the taxes paid by the N. C. & St. L., specifically allocated to road and highway use, amounted to $104,027.98. This sum was 20.77 per cent of the total taxes paid by the N. C. & St. L. in Tennessee.

Q. Give the five largest cities in Tennessee, and their population by the last federal census.

[fol. 686] A. These cities are:

Memphis	253,143
Nashville	153,866
Chattanooga	119,798
Knoxville	105,8–2
Johnson City	25,080

Q. Define the highway routes connecting Nashville and Memphis.

A. There are a number of principal highway routes between Nashville and Memphis. Those generally used may be described as follows:

1. State Highway No. 1, which undoubtedly carries the principal load, going west from Nashville, extends through Dickson, Camden, Huntingdon, Jackson and Brownsville. This is an all-paved federal aid highway. Some of it, comparatively little, however, is of the older type of construction, and has, therefore, heavier grade and sharper curves than are permitted by standards of modern construction. On this road in recent years much work has been done between Bellevue and the Dickson County line—substantially speaking, it has been relocated and with the use throughout of advanced construction standards. From Dickson, through Waverly and across the Tennessee River, to within a few miles of Camden, the location is new and the construction modern. The route from Huntingdon to Jackson represents a new location made in recent years. The entire road Nashville to Memphis has a pavement of concrete type, except between the Cheatham County line and Dickson and a short stretch in Carroll County between [fol. 687] Camden and Huntingdon. The latter are, however, high type pavement although not concrete. The distance between Nashville and Memphis via State Highway No. 1 is 227 miles.

2. The route carrying the second greatest load through the use of Highway No. 6 between Nashville and Lawrenceburg, in Lawrence County, Route No. 15 from that point to a junction with Highway No. 1 in Shelby County, and of No. 1 thence to Memphis. This road is paved throughout and represents construction of advanced type. It crosses the Tennessee River at Savannah, and over the greater part of the route, that is, between Lawrenceburg over High-

way No. 15 to Highway No. 1 in Shelby County, the volume of traffic is small. In fact, so small as to make the type of construction used seemingly unwarranted. The distance between the two cities via this route is 252 miles.

3. State Highway No. 100, designated, so it is understood, to be the road eventually preferred, runs from Nashville west via Centerville, Linden, Henderson and Bolivar, and crosses the Tennessee River at Perryville. The distance between Nashville and Memphis via this route is 230.5 miles, from Perryville west the present route is laid down through Parsons, but it is understood the project calls for the construction of a short cut direct from Perryville to [fol. 688] Decaturville, and another short cut direct from Henderson to Whiteville. Much of this road is not complete but the finished part is of the latest and highest type construction. When complete it will be the shortest and best route between Nashville and Memphis with a distance estimated at 224.5 miles.

4. Another route is formed through the use of Highways Nos. 6, 20 and 1. This route extends through Columbia, Summertown, Hohenwald, Linden, Lexington and Jackson. Via this route the distance is 254 miles. It is paved throughout, except that part between Perryville and Lexington.

5. While Highway No. 1 is as given above, there is an alternate route between Huntingdon and Brownsville, via Milan and Humboldt over Highways Nos. 77 and 76, of which 21 miles are paved. As a matter of fact, this is five miles shorter than the route between Huntingdon and Brownsville designated as No. 1.

Q. Compare the mileage and other features of such routes, including the new route resulting from the completion of the link between Linden and Lexington.

A. The details called for by this question are included in the answer made to the preceding question. It may be [fol. 689] added that the distance differences via the several routes are not material. Via Highway No. 1 it is 227 miles, but this will be shortened only 2–1/2 miles through the completion of Highway No. 100, assuming the latter extends via Linden, Henderson and Whiteville. If the route is used via Centerville, Linden, Lexington, Jackson and Brownsville over Highways 100, 20 and 1, the distance

is 229.9 miles. It may be said this latter route is practically complete, in fact is complete as to sub-grade, but not paved between Centreville and Linden and between Perryville and Lexington. If and when completed, on the whole, it will be something of an improvement over Highway No. 1, but the difference is not material.

In the meanwhile Highway No. 1 is undoubtedly amply sufficient to take care of the volume of travel between Nashville and Memphis and more; further, it passes through the most highly developed section traversed by any of the routes described.

It is the obvious purpose of the constituted authorities to have several through routes from Nashville to the Memphis territory. Just why more than one was planned, just why some particular routing was used, of course, I don't know; but I do know that these roads could not have been designed to take care of local needs. The road from Nashville to Linden, to the Tennessee River near Perryville, and [fol. 690] on to Lexington is typical of this situation. The existing roads must still be maintained for local purposes just as they have been heretofore to take care of local needs. Those local needs do not justify a road such as the one under discussion. The volume of traffic is not there, actually or potentially, to justify the expenditures incurred in building this highway project.

This leads inevitably to the conclusion, which I understood is an admitted fact, that this State and Federal Aid road was designed as a part of a through system of highways, interstate in character, connecting the important distributing and consuming centers of the whole country. Whether we build too many of such roads between Nashville and Memphis is a point about which men may differ; but there can be no difference on the proposition that these roads were built for through travel and not to serve the local communities.

No more striking illustration of this fact can be found than the proposed underpass at Lexington involved in the instant case. There is no street, no house, residential or business, in the neighborhood of this underpass or along its proposed route, except two bulk oil stations which have their private ways and located where they did, first, for convenience of railroad facilities, and second, to get away from the more thickly populated portion of the little town

[fol. 691] of Lexington. This underpass is technically in the city limits of Lexington. As a matter of fact, this territory, as shown by the picture exhibits filed with the bill of complaint, is barren land used solely for the grazing of cattle. It will neither facilitate nor make safer local transportation in the town of Lexington, nor will it serve but a small per cent of the out-of-town business going to and through Lexington. If it has any justification at all, it is as a part of a through route of highways, interstate in character, for through traffic of freight and passengers.

Q. Is Exhibit No. 5 to the original bill the official highway map of Tennessee?

A. Yes.

Q. Will you file a copy of this map as Exhibit No. 2 to this your deposition?

A. Yes, sir.

(Map so filed and marked.)

Q. What is the nature, character and volume of traffic moving between Nashville and Memphis and intermediate [fol. 692] points on the highways, and to what extent is it competitive with the business of the N. C. & St. L. Railway?

A. It is not an over estimate to say that ninety-nine per cent of the highway traffic now moving between Nashville, Memphis and intermediate points, is automobile traffic made up of private, contract and common carriers of persons and property. Highway No. 1, already in part described, extends from Memphis to Bristol. It traverses the State from end to end, a distance of 534 miles. It is, on the whole, the most heavily traveled highway in Tennessee, and it may be said that practically the entire traffic, freight and passenger, now moving over this and other routes between Nashville and Memphis is competitive with the N. C. & St. L. except only such small amount as there may be of urban and suburban travel and freight hauling.

Q. Has either the county of Henderson or the city of Lexington ever made any request on the N. C. & St. L. for eliminating the grade crossing at Clifton Street, or for the re-routing of said Highway No. 20 through the city.

A. No such request has been made by either of them.

Q. Has any request or demand ever been made on the N. C. & St. L. for this new underpass within the city limits of Lexington except by the State Highway Department itself?

[fol. 693] A. It is my understanding that no such demand has been made, except by the State Highway Department.

Q. To what extent will this new underpass facilitate the movement of highway traffic within Lexington?

A. The proposed underpass is situated near the eastern corporate edge of the city of Lexington. There is not even one residence or place of business between the underpass and the corporate limits on the east. Obviously, therefore, this underpass will not in any way or in the smallest degree facilitate the movement of highway traffic within the city of Lexington.

Q. To what extent will this proposed new subway eliminate traffic now moving over the Clifton Street crossing?

A. A twenty-four hours daily check of travel was made under our direction covering this traffic for the period September 21-24, 1931, inclusive. Based on that check it would appear that the new subway may possibly eliminate a maximum of 25.8 per cent of automobile and vehicular traffic, and approximately 7.7 per cent of pedestrian traffic now moving over the Clifton Street crossing, but none of this, it should be understood, is highway traffic within the city of Lexington itself.

[fol. 694] Q. Give some specific examples of the size and weight of motor vehicles now and recently actually operating on the public highways in Tennessee.

A. It is common knowledge that the size, weight and other characteristics of motor vehicles now operating on the public highways of Tennessee are similar to those vehicles operating generally over highways throughout the country. A list of dimensions, weights, etc., would be difficult, and after all perhaps not so descriptive as the answer to this question demands. We have, therefore, selected and now file as part of this answer, photographs, newspaper cuts, various descriptions, etc., all covering motor vehicles generally in use and to a great extent known to be in use in Tennessee. I am filing these in one volume as my Exhibit No. 3. We have in our experience seen practically all these types. We have semi-trailers, units as long as 63 feet. We have seen trucks carrying loads exceeding 40,000 pounds; in at least one instance a truck 8 feet 6 inches wide, yet operating over a highway with a pavement width of 18 feet.

While the photographs, pictures and descriptive matter mentioned and herewith filed are in response thereto, in point of fact the best answer to this question lies in the experience of all men who today use our public roads.

[fol. 695] Q. To what extent do these motorvehicles now compete with railroads in Tennessee in general, and specifically with the N. C. & St. L.?

A. The overwhelming percentage of all persons and properties now carried by these vehicles would otherwise move by rail. So far as the N. C. & St. L. is concerned, the competition is particularly severe, for substantially every mile of its line is paralleled by improved highways. There is, of course, a comparatively small movement of persons and property using these highways, in whole or in part, to complete trips between the farm and what otherwise would be the nearest railroad station. There is also some movement from between stations, short distances, and intermediate destinations, that is—destinations intermediate with the next station, but the sum is trivial in comparison with the whole; that is, the entire business which but for the use of motor transport would otherwise be handled by rail.

Q. To what extent do we originate traffic for railroad movement in Henderson County?

A. In the answers previously made, it is explained that the industrial development in Henderson County is painfully small. Little traffic for rail movement now originates in that county. In former years, and prior to the advent of motor transport, there was a reasonably good move-

[fol. 696] ment by rail of cotton, forest products and livestock, and there is now a small production of vegetables in the form of tomatoes. Since the coming into the picture of the improved highways and the use of motor trucks, the greater part of all cotton, forest products and livestock, and these form the bulk of the production of Henderson County, is handled by truck.

Q. In proposing this new subway within the city of Lexington, does the State Highway Department or the Bureau of Public Roads of the United States propose to do away with the present grade crossing of Route No. 20 over our main line which is the Clifton Street crossing?

A. Clifton Street is one of the principal streets in the City of Lexington. Not only is it used by urban and sub-

urban travel, but it is part of the route of Highway No. 22 between Lexington and Henderson, Tennessee, and of the county roads between Lexington and Sardis. The movement of traffic over the Clifton Street crossing is heavy, comparatively speaking, but it is clear the construction of the proposed new subway will decrease the amount of that traffic only slightly. Nor is it proposed to do away with the present grade crossing when the new subway is completed.

Q. How has the advent of the internal combustion engine and construction of highways revolutionized traffic [fol. 697] in general, and specifically in the State of Tennessee?

A. The advent of the internal combustion engine has entirely revolutionized traffic generally, including that of Tennessee, nor has the revolution, in our opinion, reached its greatest development. Changes may be seen on every hand. For example, they are seen in the development of our cities where the residents no longer seek to locate directly on traction lines. In large numbers they now live in suburbs remote from street car service, and go to and from their places of business by automobile. There is a substantial movement to and from the larger cities, of the sort formerly protected by suburban railway train service, extending out even 20 to 30 miles. The use of train service by traveling salesmen is practically a thing of the past. Almost exclusively, and certainly where the radius of territory does not exceed a few hundred miles, these salesmen do not travel by train, but use automobiles. In fact, only those salesmen who make long jumps between principal cities, without effort to cover intermediate territories or smaller towns, now use trains. Much of this is beyond railroad control. It is not a question of rates, but one of greater cast and facility. As a matter of fact this railroad owns automobiles used by some of its traveling agents. We find that our small stations are gradually drying up. Formerly each had its store, or stores, which served the local community and countryside. Now with [fol. 698] the use of automobiles this trade is attracted to the nearest town. In many ways the results are serious. For example while formerly this company operated 227 open stations, that is, stations at which agents were placed, the number is now 109. The farmer no longer, as a matter

of course, trades with the nearest store, and neither, as a matter of course, does he carry his produce, large or small, to the nearest point on the railway in his section. The radius of his trading operations has greatly increased. Gradually we are changing from a nation of small villages and towns, each largely self-contained, to one where support is given a comparatively few centers of increased population. It is seriously to be doubted if this is to the public advantage, or to the greater happiness of our people.

We find that vacation and pleasure travel is now, for the most part, a matter of highway uses. The urge of novelty, the desire to see new country, the convenience of arrival and departure, the use of the automobile at the vacation point itself, the fallacy of supposed cheapness, the Gypsy spirit, part of all of us, and many other things have conspired to bring this result. It may safely be said that approximately 80 to 85 per cent of the land borne passenger traffic of this country now moves by automobile.

[fol. 699] Nor does this statement adequately measure the entire — that motor use has had upon rail transportation. Large amounts of freight traffic, the product of farm and forest, or supplies going into the interior which formerly moved over unimproved county roads to and from the nearest railroad station in horse-drawn vehicles, now go direct over improved county and state roads direct to their destination. This change in business was first experienced in connection with distributive traffic; that is, traffic moving from central jobbing points such as Nashville, Memphis, Jackson, etc., to destinations in their several territories. Of the business thus described, within the territory served by the N. C. & St. L. the loss to that company has been approximately 65 to 75 per cent, but it is now extending much further. The present trend is toward the handling of heavier commodities, some of low value, nor is the movement confined to short distances. I have seen within the month a statement covering the freight handled by motor truck for one nationally known firm. That concern paid motor trucks in 1931 about $1,400,000 in freight charges. Normally over a series of years it shipped and received about 180,000 carloads of freight—but the proportion by rail in the latest year did not exceed 140,000. The percentage of loss is startling,

bearing in mind that much of the business moves over extreme distances. It is largely trucking such commodities [fol. 700] as soap, eggs, canned goods, glycerine, hides, meats, as far as 450 miles, and on occasion even greater distances. As I have already said, drugs and chemicals have moved in trucks from New York to Memphis, rayon and celophane from Old Hickory, near Nashville to factories in North Carolina, Virginia, and even to factories in New Jersey and New York. Cotton fabrics move regularly from mills in Georgia and Alabama, to tire factories in Ohio, and rubber tires are returned. In Tennessee startling evidence of the growth of highway freight handling is found in the movement of cotton into the great cotton market of Memphis. For example, up to March 4th, 1931, Memphis had received a total of 1,154,272 bales, all of which, except 96,450, came in by rail. Up to the same date in 1932 it had received 1,709,159 bales, of which 541,884 came in other than by rail, of course, substantially all of it in trucks over the highways.

It may be said that the effects of highway competition are today felt by the N. C. & St. L. practically on every item of traffic for some distance up to at least 150 miles, and frequently much further. Commenced at first by individuals, the freight carried on our public roads is gradually taking highly organized forms, with the investment of large sums of money by companies having ample capital resources, many of them are domiciled in other states. Precisely [fol. 701] the same thing, but in greater degree, is true of the transport of passengers. In that case the business is already organized to the point that through tickets can be purchased between practically all points, and from coast to coast.

As evidence of nationwide highway operation by large companies with ample resources, we offer an exhibit composed of time table, newspaper advertisements, etc., descriptive of service available. I am filing this as Exhibit No. 4 to my deposition. It will be noted that regularly scheduled bus service is offered from Nashville, Tennessee to Montreal, Canada, on the north and Monterey, Mexico, New Orleans, and Jacksonville on the south; between Asheville, N. C. on the east and Los Angeles on the west; while one Tennessee Trucking Company offers through service from Chattanooga, Tennessee to the principal cities of twelve states.

The tremendous character and extent of the changes that are taking place in transportation generally, due to the advent of motor handling over our highways, is little understood. Nor are these effects confined to the railroads—rather they extend far beyond such limits.

It is not possible in an answer like this to more than sketch the situation, but perhaps the following has interest: [fol. 702] From the first beginning of rail transportation, a leading principle in the determination of rates has been the value of the transportation performed. It seemed wise, and the principle has been consistently followed, to make the rates on goods of higher value something more in proportion than those on goods of less value. The former could afford to pay on that basis, the latter could not, and yet the development of the country, the carrying and in fact all industry, required the possibility of conducting operations over the widest possible area.

The truck operator concerns himself little with differences in commodity values, or in the other minutia which makers of freight rates carry constantly in mind, and, of course, he is regulated little, if at all. His objective is to earn a certain minimum gross sum for the days' use of his vehicle. He will carry silk or sand at practically the same rate and at whatever may be necessary to obtain this result. He has only nominal regard for added risk, value of transportation or other elements that influence the maker of rates by rail, or that reasonably should attach to one commodity in comparison with another. The rates he makes for one person are not those necessarily made for another, although the circumstances of transportation are identical. He discriminates, shows undue preference, gives advantage when and as he pleases, and as he may think necessary in his own interest. Regulation, control, rules [fol. 703] of conduct, are for him. Such things operate only to control the rail carrier with whom he unfairly competes.

The reasonable daily performance of a truck is pretty well known. Using one driver probably it does not exceed 250 miles, meaning of course, miles loaded, light or a combination of the two, but this mileage may, if necessary be made up of more than one round trip. The number will depend upon the character of the business, the features of terminal delays, and other causes. But as the business is

developed and better organized, two men are used on the truck, or relay points fixed at which crews are changed. It is always the purpose of the truck owner to keep his equipment moving with the least possible delay. Of course, we know something of the character of labor employed as truck drivers, and something, in a general way at least, of the rates of pay that prevail. Those who drive these trucks have not received the preliminary training, for example, required of a railroad locomotive engineer. Generally there are no statutes limiting the hours of service. There are no requirements in many states, such as Tennessee, fixing any qualifications for this service. Obviously a great truck on the public highways, even in the hands of the most experienced and careful driver, is a public menace. All the conditions attending their employment are, from the public standpoint, throroughly unsound. On the other hand, in railroad transportation, corresponding po- [fol. 704] sitions are filled only by men having years of training and experience, and with the certainty of management the men selected have judgment comparable with their responsibilities.

Where two men teams or relays are used, it is difficult to fix the daily trucking radius that is practicable. It will probably be determined by the ability of the truck owner, for the distance involved, to earn the minimum return in his opinion necessary. Some mention has already been made of the length of the hauls that are known to be taking place.

There is no sound reason to believe that trucking operations in magnitude to those now taking place in the west and east are impractical to the south, or that the costs here would exceed the costs there. If anything, due to smaller average wage payments, they may be less. But there are definite limits to profitable truck ownership, because there are definite limits within which certain commodities, at least may be transported by this means of carriage. For example, it would not be profitable to truck coal, say 250 to 500 miles; it would not be profitable to truck fruit from the Pacific coast to the south, and so many other instances could be cited, still, the areas within which trucking is profitable, and the list of commodities that may be trucked are both so extensive that the problem is one of huge proportions, but it is one that must be solved if

the railroads are to continue solvent. That railroads, either under private or some other form of management [fol. 705] and control, must continue to give service to the public is not arguable, for whatever the development of highway operations may be, it has not reached the point that it may act as a complete substitute, nor is this point in sight.

The combination of these circumstances brings the public interest at once to mind. If the railroads are to live, and they must live, they must earn a certain minimum revenue, and this revenue must be earned from the transportation of freight and passengers. If the trucks continue to divert a substantial and even growing proportion of their freight business, the part which remains must make good the losses they incurred.

To illustrate. Assume it is profitable to truck coal for 100 miles. We know it would be unprofitable operation for 300 miles, or more. The remedy then will be to reduce the rates on coal for short distances, and increase them beyond the ascertained trucking radius as may be necessary to maintain, at least on that commodity, the average revenue return required for rail carriage, and so with any and all commodities. Indeed, more, the transportation impractical for highway operators must make good the general losses on other commodities, and for other distances where that competition enters and controls.

This is utterly revolutionary in sort. Its final effect upon existing trade centers, the location of factories, upon [fol. 706] distribution as a whole, can only vaguely be seen, if at all. The one thing standing clearly out is—that as the only source of rail revenue is the public, the public in the last analysis must pay the bills. Nothing else is possible, unless railroads are to receive subventions from the public purse, directly or otherwise. But it is not to be supposed, for a moment, that changes of this magnitude can be made without overturning the whole fabric of trade, with all the hardships that inevitably accompany such widespread disturbances. A book could easily be written of this tremendous subject.

Q. Are the registrations of automobiles in Tennessee, 1920 to 1930, as set out in paragraph (c) of Section IX of the original bill in this cause, correct as shown by the official records of the State of Tennessee?

A. They are.

Q. Are Exhibits Nos. 8 and 9 respectively to the original bill correct?

A. They are.

Q. I will ask you to file copies of those Exhibits 8 and 9 as Exhibits 5 and 6, respectively, to this your deposition?

A. I will.

(Maps so filed and marked.)

[fol. 707] Q. Have you had the data there shown brought down to date? If so, give this additional data.

A. We have examined the records of the Tennessee Public Utilities Commission, and we have also obtained information from the Supervisor of Motor Vehicles as to changes in the certificates held by bus and truck operators over routes in Tennessee made since the last printed report of the Commission. The exhibits referred to as Nos. 8 and 9, correctly represent the highways in Tennessee over which certificated common carriers, passenger and freight, were operating on February 5th, 1932.

Q. Comment on these two exhibits in detail.

A. Through the color scheme used on these maps, the lines of the N. C. & St. L. railway are shown in blue. Federal aid highways over which common carrier buses and trucks operates are indicated in red. State aid highways over which common carrier buses and trucks operate in yellow. These maps show only the routes over which common carrier vehicles operate. They do not show the number of vehicles operated or any of them, or overall combined. This explanation is made because in many instances it is known that ten or more separate and distinct companies operate over portions of the same highway.

On February 5, 1932, there were 44 routes in Tennessee over which interstate carriers of freight operated, and all these routes paralle*l*ed existing railroads. In addition [fol. 708] there were 209 routes, operated by intrastate freight carriers, of which 176 paralle*l*ed the railroads and 33 did not. In other words, there was a total of 253 freight routes with 220 running parallel to the railroads.

On the same day, February 5, 1932, there were 46 interstate bus operations, of which 42 paralle*l*ed the railroads and 4 did not. There were also 110 intrastate bus operations, 54 of which paralle*l*ed the railroads, and 56 did not. Combined, we have a total of 156 bus routes operated, 96 paralle*l*ing existing railroads and 60 not paralle*l*ing them.

None of these figures include correct carriers or itinerant operators, of which there are a vast number daily operating over Tennessee highways. There are included only those companies operating fixed routes on established schedules under certificates duly issued by the designated state authority.

As an examination of the map will show, practically every mile of the N. C. & St. L. is paralleled by regularly scheduled operators engaged in the common carriage of freight and passengers.

Q. Give from the official records of the State the amount expended in the last ten years in Tennessee on public roads, and show how much of that sum has actually been paid to date by taxes on motor vehicles of all kinds, including registration and gasoline taxes.

[fol. 709] A. The Statistical and Accounting Divisions of the State Highway Department report inability to furnish accurate figures covering road construction and maintenance expenditures prior to the year 1926. Neither have we been able to determine how much of the sums thus expended during that period were paid from taxes on motor vehicles. We do know there are some ninety millions of dollars of bonds and short term notes outstanding against the State, including in these figures county bonds issued to cover the cost of road construction later made parts of the State System. The following statement shows the amounts expended by the State Highway Department on so-called State System roads during the years 1926 to 1931, inclusive. By the term State System, as here used, is technically meant those roads set apart and so described, and having, as has been previously testified, a mileage of approximately 7,500.

Fiscal year	Construction	Maintenance	Total expenditure of department	Federal aid receipts included in total expenditures of the department
1926	$7,960,757.66	$2,334,561.21	$14,037,014.87	$2,377,547.53
1927	8,843,408.27	3,648,679.94	15,002,628.45	1,812,485.57
1928	10,945,505.84	$3,590,096.71	19,171,577.45	1,161,092.32
1929	16,756,330.61	2,884,020.86	25,081,220.53	2,245,874.99
1930	23,478,814.19	2,679,467.29	33,105,234.22	1,459,546.34
1931	23,528,337.38	3,000,739.61	30,455,476.54	4,506,822.46
	$91,513,153.95	$18,137,565.62	$136,853,152.06	$13,565,369.21

NOTES.—Figures for years 1926–1930, inclusive are cash. Figures for year [fol. 710] 1931 are net. However, the difference between cash and net figures is very small.

The federal air receipts for 1931 were $1,741,882, in excess of the regular appropriation. Beginning 1933 this excess amount will be deducted from regular appropriations in five equal annual installments of $348,376.40.

Q. To what extent do automobiles in Tennessee contribute to the general cost of government as distinguished from the construction of roads for themselves to use?

A. So far as we have been able to determine, with the exception of personal property taxes, which nominally include automobiles, but from which on automobiles the receipts are negligible, automobiles in Tennessee do not contribute to the general cost of government except to the extent of a tax of one cent per gallon on gasoline, as this was enacted by the last or Extraordinary Session of the Tennessee Legislature as an emergency measure to take care in part of the huge deficit then found to exist.

Q. Give in detail the number of revenue passengers and the gross passenger revenues of the N. C. & St. L. from 1920 to date?

[fol. 711] A. This information is shown in the following statement:

Year	No. of revenue passengers	Passenger revenue
1920	4,385,630	$5,661,011.08
1921	3,103,723	5,115,363.36
1922	2,859,270	4,678,037.50
1923	2,916,708	5,060,565.10
1924	2,571,439	4,815,184.50
1925	2,212,234	4,834,798.12
1926	1,915,129	4,503,571.12
1927	1,771,757	3,849,644.52
1928	1,444,887	3,335,146.31
1929	1,171,108	2,909,440.13
1930	680,347	2,095,942.29
1931	444,582	1,419,860.24

It will be noted that while in 1920 we handled 4,385,630 passengers this decreased until in 1931 it was only 444,582, or practically ten per cent of the first period. The passenger revenue decreased from roundly $5,600,000 to $1,400,000 or nearly seventy five per cent, the present figures being approximately twenty five per cent of the former. In other words, the total number of passengers decreased ninety per cent, the revenue seventy five per cent. As will be seen, [fol. 712] the loss was greatest on short haul passengers who necessarily pay less for transportation that passengers handled over long hauls. But it should be said the losses

have been extraordinarily severe even over long distances—for example, between the middle west and Florida, between Nashville and Memphis, Nashville and Atlanta, between Tennessee points and the East, etc.

Q. What is the cause of this condition?

A. The principal causes have already been roughly sketched. They may be summed up in the term "highway competition," that competition dividing itself between private cars, i. e. cars owned by the individual and individually used, and commercial busses. There is a third element, air transport, but it now enters in such a small way that it need not be particularized or dwelt upon. But even there the future is not so clear, with these lines already accepting rates but little more than the cost of train travel between the same points.

Q. Within that period and in general to what extent has transportation by truck in Tennessee developed?

A. The answer to this question will probably be found, largely at least, in what has already been said. The period of development, that is, the period within which it has developed in a formidable way, may be covered by about ten years. But the rate of progress had rapidly accelerated in [fol. 713] the last three years. It was about 1928 that the Tennessee State Highway System was complete to the point making possible the movement of heavy loads between practically all important cities. To illustrate, only a short time before that year it would have been impossible, practically speaking, to move a heavy truck under load between Memphis and Nashville, between Memphis and Chattanooga, or between Memphis and Knoxville, although such things are now easily and daily accomplished. At about the same time our national system of highways was developed to the point that interstate commerce could move freely over the main highways and not be stopped by missing links in the form of impassable road sections. Coterminous with these, and as a natural consequence, the manufacturers of trucks brought out improved equipment of greatly increased size and capable of carrying heavy loads over long distances at sustained high speeds. With the coming together of these factors, the trucking industry has grown by leaps and bounds and continues to grow, until the character of trucking previously related at some length becomes a common incident of the business.

Q. To what extent are the N. C. & St. L. lines in Tennessee paralleled by public highways?

A. The maps already filed give this information in easily comprehended form. It may be said that about 95 per cent of the mileage of the N. C. & St. L. in Tennessee is paral-
[fol. 714] leled by state and Federal Aid Roads, while the remaining 5 per cent is covered or served by county roads connecting with these main systems.

Q. How has this affected N. C. & St. L. freight traffic, giving details?

A. Much has already been said responsive to this general question. It is not possible, with known figures, to give an accurate detail the extent and character of the losses referred to. The situation, aside from the general answers already attempted can, however, be illustrated by certain statements showing the movement of less than carload traffic out of Nashville, also a statement showing the receipts of livestock by truck and rail at Nashville, and both are attached as my Exhibits Nos. 7 and 8, respectively.

(Exhibits so filed and marked.)

Less than carload business, that is to say, lots of freight in quantities consisting each of something less than a carload, represents that business largely sold by wholesale and other merchants, situated in the larger towns and going to small merchants or individual receivers throughout the respective trade areas. Formerly this business was exclusively handled by rail, certainly all beyond purely nominal distances. The detailed figures in the exhibits clearly so indicate.

[fol. 715] The movement of livestock has been revolutionized by motor trucks. Formerly livestock buyers earned a livelihood going from farm to farm, picking up individual animals or groups of them, bringing these together at some central railroad point where they were yarded and later loaded in a railroad car to be taken to the selected market. The country buyer has practically disappeared. Today the farmer gets the market, usually over the radio or from his daily paper; if he thinks it advantageous, he loads his stock in his own truck, or combines it with that of his neighbor to make a truck load, and carries it to the market himself,

usually a distance which can be covered in a day and the farmer back at home.

In other answers mention has been made of heavy movements of cotton, forest products, tires and tire fabrics, rayon, and to this list may be added automobiles, canned goods, dairy products and a hundred others. Automobiles are named in the list. The time was when 98 to 99 per cent of the automobile production moved from the factory by rail. Today 50 per cent or more is covered by drive-ways. Even where rail handling is used, it is to the larger points only and the automobile driven from there to the place at which it is finally sold and used.

Q. Where stations on our lines have not been served either temporarily or permanently by state highways, what has been the effect on N. C. & St. L. freight traffic?

[fol. 716] A. There are comparatively few such stations, but there are some, and there this state of things exists interesting comparisons are possible. For example, Normandy, Tennessee, is not on any main traveled highway route. The less-than-carload traffic from Nashville to that station was, in September 1925, 1929 and 1930, as follows:

1925	20,644	pounds
1929	31,690	"
1930	45,842	"

Contrast these figures with Tullahoma, the next station, and on a traveled route. The figures are:

September 1925	243,650	pounds
" 1929	106,389	"
" 1930	86,931	"

Sherwood, Tennessee, is not on a main traveled route. The figures are:

September 1925	22,382	pounds
" 1929	21,999	"
" 1930	19,166	"

Contrast with Chattanooga:

September 1925	575,150	pounds
" 1929	260,012	"
" 1930	196,605	"

[fol. 717] Another illustration: There is no through freight route between Nashville and points on the Perryville Branch. Mention has already been made of the fact that no established freight or passenger service has been established on that part of the Highway No. 20, itself unfinished. Parsons is the town of chief importance on that Branch. Note the figures.

From Nashville in			1925	32,731 pounds
"	"	"	1929	38,138 "
"	"	"	1930	25,037 "

But the fact is that the number of stations, and therefore the possible number of cases in which highway transportation is not a living factor, is so few, that this answer is of small importance, except as evidence of the incontestible power and effect of highway competition.

Q. Give in some detail freight and passenger business now handled by motor vehicles in Tennessee on regular schedule, comparing the same to railroad transportation.

A. For the most part this question has already been answered, or the character of the answer indicated. It is within the knowledge of anyone using the highways, however limited that use may be, that the quantities of freight and the volume of passenger business handled by common carrier motor vehicles in Tennessee, has reached enormous proportions and continues to grow.

[fol. 718] For passengers in the larger cities bus terminals have been constructed, some commodious and comparing favorably with the ordinary railroad station. In those terminals tickets are sold, local and interline, to practically any destination in the country, and regularly scheduled busses arrive and depart at frequent intervals. In the smaller towns there is a notable lack of adequate depot facilities, indeed facilities of any sort, but tickets are sold usually in drugstores, at soda water stands, etc., ordinarily on a commission basis. The town streets are used for station purposes, a condition that would — voted intolerable if it obtained with rail carriers.

In the larger cities there are one or more consolidated truck depots. To and from these large vehicle units go, with a later distribution usually by lighter vehicles to the receiver. These vehicles are also used in pickup originating service. Again, as a pickup and delivery, the streets

and sidewalks of our towns and villages are used as stations.

In many respects the character of the operation of these highway carriers is similar to that of railroads. Certainly this is true to the extent that property and persons are carried. It is in the detail of operation that differences are found, in the absence of facilities by one, with the maintenance under compulsion of law by the other; in the provision and maintenance by one of its own right of way and [fol. 719] structures at its own expense, and on these taxes paid, while the public provides the right of way and structures for the other and collects neither taxes nor maintenance costs.

Another and startling development lies in the fact that although the roads were designated and presumably built for the use of the average citizen, they have become great arteries of commerce with the — dominating the type of road, determining its cost and increasing the hazards of ordinary travel even to the point that this average citizen now finds himself an alien to be ruthlessly crowded into the ditch. It is distinctly one of those cases in which the nose of the camel has been allowed to enter the tent with the result the owner finds himself crowded out. It is a state of things incredible of belief, so grotesque it is in all its aspects.

Q. Compare in a general way the traffic conditions at grade crossings now with what they were in about 1920?

A. As this question is understood, it goes to an estimation of the benefits which may be expected had from grade crossing separations, both by railroads and the users of highways, together with the proportionate benefit of each, and perhaps this is the heart of the whole problem. [fol. 720] To my mind the answer runs something like this:

Prior to the advent of the automobile the railroad accepted responsibility for crossing hazards, because it had for the most part created those hazards. It protected itself as best it could through the installation of signal systems, by watchmen where though- necessary, or in the absence of specific protection in some form, took the financial risk involved. This continued from the beginning and was the situation with the advent of motor transport and its new and increased hazards.

The present grade crossing at Clifton Street in Lexington may be used for purposes of illustration. Suppose that over it now passes a steady stream of trucks, buses

and private automobiles instead of the occasional horse-drawn vehicle of former days. Obviously each motor vehicle, and there may be thousands of them, carries the particular hazard, with the complementary part of that hazard, the risk incurred by the other user of the crossing—the railway.

Travel has employed this crossing for years. The protection given its original use by the railroad, and it accepted the risk, was sufficient. This is shown by a reasonable absence of accidents, and therefore, the absence of its destruction of life and property. The use of the crossing by the railroad has not increased. It has decreased, as this use is represented by the number of railroad units [fol. 721] passing over the crossing in a given time, but its use by other forms of transport has tremendously increased. In this new state of things, in my opinion the railroad occupies the position held originally by the horse-power vehicle and its driver, and may now demand the protection it was originally required to give, and did give, against the former hazard, and may reasonably expect this protection to be given at the cost of those who created it, or by the State that permits it. In other words, so far from requiring the railroad to participate in the cost of an improved crossing free from this new hazard, in my opinion it has the right to demand such protection given it, at the cost of those who create it and without cost to itself.

Certainly, this seems sound in logic and altogether just, if under certain conditions the railroad is required to protect, another form of travel crossing its right of way, and does so then with the advent of a new hazard of such proportions as to demand, in the public interest, the adoption of further safety measures, they should be paid for by whoever causes or otherwise creates the risk, or permits it to be created or increased. Suppose a half dozen new railroads are projected to cross the N. C. & St. L. between Bruceton, Tenn. and Jackson, passing through Lexington. [fol. 722] Suppose these lines of such importance, and their trains in number sufficient to justify or demand the elimination of all risks due to crossing at grade. Certainly no part of this cost should be borne by the N. C. & St. L. The risk would be a new hazard created by the lines building in, and should the grades be required separated, it could not fairly be argued that the cost of any part of the work should be paid by the N. C. & St. L.

To my mind it is precisely the same state of things when a tremendous movement of new traffic by automobile or motor truck over a highway creates a new hazard demanding that protection which a grade separation alone gives. In such case, the cost should be borne by those who create the risk, itself new and not brought into being by the railroad; further, the railroad is itself entitled to and may properly demand protection.

Q. Compare for the State of Tennessee alone what it costs motor vehicles to have a highway for their use plus their taxes of all kinds with what it costs railroads to have a highway in condition to use plus taxes of all kinds.

A. The statistics we have show that motorbuses for hire, as a national average, pay about 7½ cents out of each dollar of gross revenue in the form of taxes, all kinds, including ad valorem, privilege, license registration and gasoline. In Tennessee the total is something higher than the national [fol. 723] average for buses, while for trucks it is substantially less. Taking the two forms of transport together, it may be said that highway common carriers of freight and passenger in Tennessee pay in taxes of all kinds about seven cents out of each dollar of gross revenue.

For the payment of this seven cents of each dollar gross revenue, the highway carriers receive full governmental protection. In addition they have the unlimited use of a roadway built and maintained exclusively out of public and governmental funds, except where they are given the use of such a facility as the proposed underpass at Lexington. While this would be without expense to them, it is in part at the cost of the railroad, and yet it is of trivial value to the latter.

On the other hand, the N. C. & St. L. Railway, and this is perhaps typical of all railroads in Tennessee, pays between five and six cents out of each dollar of gross revenue in immediate taxes, and for this payment receives nothing beyond government protection. But it cannot run its train on governmental protection alone. Tracks are required, and it costs the N. C. & St. L. Railway an average of approximately 33 cents out of each dollar of gross revenue earned for governmental protection plus the cost of a properly maintained roadway on which its trains may run, including interest on the sums invested in roadway at five percent. In other words, fairly compared, for what the

[fol. 724] highway carriers pay seven cents out of each dollar gross, the N. C. & St. L. pays 33 cents.

Q. What effect does this situation have on the ability of railroads to compete in rates with motor vehicles?

A. Manifestly, it is an impossible situation from the standpoint of competition. No two forms of the same industry can compete, one with the other, if for a necessary part of its equipment one pays seven per cent of its earnings while the other pays 33 per cent. Given a parity of conditions, in other words, if the State of Tennessee at its cost, through its general tax funds or in any other way, will provide for the N. C. & St. L. a roadbed and structure, that Company could afford to reduce its rates far below their present level, and substantially below any level yet attempted by its highway competitors. But the situation is even worse than this statement indicates. The highways take the better paying commodities, and generously leave to the railroads those commodities on which the rates are less remunerative. In other words, if on all the traffic of the N. C. & St. L. it could charge freight rates averaging the same per ton per mile as those charged by its highway competitors, its gross earnings would be multiplied, certainly not less than five times, probably more. Of course, this is a fantastic statement because the great bulk of the [fol. 725] business we do handle would not be handled at all on basis of the charges this formula would create, just as this business could not now be handled by the trucks for the rates the railroads charge.

Q. Does any of the money paid by the N. C. & St. L. in taxes go for the construction of maintenance of facilities for the N. C. & St. L. to use?

A. So far as I know, not a dollar of it.

Cross-examination reserved.

Further deponent saith not.

Chas. Barham, by W. Howard Fish, Reporter.

Sworn to before me when taken. W. Howard Fish, Notary Public. (Seal.)

[fol. 726] CHAS. BARHAM, being recalled for cross-examination, deposed as follows:

By Gen. Beeler:

Q. Mr. Barham, I wonder if it is possible to get, without

too much work, the number of carloads of farm products, including livestock, etc., from Nashville in 1931?

A. We haven't the figure in that form, General. We can give you the number of tons and the number of carloads of a very long list of commodities divided in accordance with the Interstate Commerce Commissioner's statistics. That would show the total amount and it wouldn't be divided as to origins, that is Nashville, Chattanooga, Memphis, etc. but it would be a full list of all lines. We can divide that for you in several ways, as interstate, intrastate, or rather, originating on the line, originating on foreign lines, destined to points on the line, destined to points off the line but we can't carry it beyond that.

Q. I wonder, Mr. Barham, if your records would show shipments by rail from Lexington and Henderson County over any period of time back.

A. That could be compiled at very great expense of time.

[fol. 727] Q. Were there any carloads shipped originating down there?

A. Oh yes, some. Henderson County and Perry County originate forest products in some quantities, a little cotton, and in the last few years there has been a small production of green tomatoes. No particular volume. But that I mean it is not an appreciable item of traffic. The forest products have gone off on account of general commercial conditions. There is quite a little timber left in that territory—a substantial lot of timber left along the river. Of course, the distance from the line though increases as the timber has been cut. None of those things though are affected by the roads. I mean the timber is ultimately marketed whether there were roads or not.

Q. Now, has any other commodity increased or decreased that would formerly be shipped in that territory?

A. There has been a general decrease, substantially speaking, in all commodities.

Q. Is that due to the fact that the territory is simply not producing it or no market for it or what?

A. We had a rising trend of traffic originating on the line up to the time of the present depression except as we were affected by the roads in our shorter hauls.

[fol. 728] Q. Now, in your examination in chief you add

something about passenger trains not being used by traveling salesmen as they formerly were. Isn't it a fact that the traveling man is about an obsolete proposition now except these fellows that jump out from a town like Nashville and sell right around the town?

A. I don't figure so. Not the number of men on the road, salesmen on the road now as compared with former years. Of course, whatever may be the number, they are not traveling by train.

Q. There used to be drummers when there were lots of them, and now they are traveling salesmen, a few of them; isn't that true?

A. That may be true.

Redirect examination.

By Mr. Hall:

Q. Mr. Barham, to what extent, in a general way, has the N. C. & St. L. Railway been forced to reduce otherwise reasonable rates in order to meet truck competition?

[fol. 729] A. Of course, it is very difficult to answer that question in the form of figures. I can give you—I am not sure that it is included in this original evidence—a somewhat comprehensive statement showing the number of rates that have been reduced. I have such a statement here before me now, which shows that we have, within the past few months and quite substantially so, reduced rates on forty-two groups of commodities and the number of rates reduced are 1117. Of course, that means very little without an explanation. We reduced the rates, for example, on cotton. I should say the average would be fifty per cent. Many individual rates reduced more than that, as much as seventy-five per cent. The first cause, so far as we were related to it, came in the form of highway competition. The government boat line on the Mississippi River established certain barge rates from Memphis to New Orleans. We found that those rates added to the cost of trucking cotton from our line to Memphis, so we very substantially reduced the through rates by rail to New Orleans, so they were reduced. You can't reduce rates on cotton in one place without affecting other territories. There is an insistent clamor to preserve the relationship of market advantages, etc. That finally spread until rates have been reduced

all the way to the New England mills and as I say, it is a fair estimate that the entire rate structure of the South has now been reduced fifty per cent. We have reduced the [fol. 730] rates on potatoes, mentioned by Mr. Hill very substantially. Those potatoes don't, however, originate in the territory between Bruceton and Memphis. They originate in the territory between Bruceton and Hickman, and between Bruceton and Paducah. Some few pass through the city of Lexington. Those rates have been very largely reduced and they are still too high. I mean if we are to regain the traffic from the highways.

Q. Right in that connection where do those potatoes go to, the North?

A. The largest movement with us would in the Chicago territory, but they go everywhere. I had this experience week before last. I was in Gleason. I found on that day several truck loads—someone said twelve—I think it was probably exaggerated—had left for Chicago, sweet potatoes. Upon inquiry, I learned that the man hauling them contracted to make the trip in forty hours, round trip; that he, put two men on the trucks and paid one $3.00 and the other $1.50 for the round trip.

Q. Did they bring anything back?

A. Well, he took a chance on that. There are bureaus established in all the large cities for freight and passengers. If I drive my private automobile to Chicago I can go into those and register as returning to Nashville and they will undertake, if possible to give me a passenger to [fol. 731] come back at such figure, as we may agree upon between them, less a percentage. The same arrangements are conducted by agencies for freight. Tremendous amounts have been taken from us in that way, very largely because the man returning feels that whatever he may get is just so much net. He makes his contract for his outgoing trip and takes chances on the return trip.

Q. Now, do you know, with reference to the operation of the sort you spoke about from Gleason to Chicago of potatoes, whether that operator has to pay any license fees or buy any tags in Kentucky and Illinois where he goes into those states?

A. I am not advised as to that. I do know this that that operation has undoubtedly reduced the price received by

the farmers of Tennessee for potatoes in the last year forty per cent. There is perfect agreement between well informed men as to the truth of that statement. I had it repeated to me week before last, not once but half a dozen times. You see it utterly demoralizes the market. We have it on citrus fruit from Florida. We have it on vegetables even coming as far as the Rio Grande Valley. The United States Government, through its bureau of markets, has built up a very splendid system of market devices. [fol. 732] They can tell you over night how many cars of each principal commodity has been moving with the destination. A dealer here in Nashville buys citrus fruit, buys anything else in the light of that information. I mean as a normal thing. Since the opening of the highways and trucks there have been several results. First, the marketing of enormous quantities of low grades which should not be marketed at all. Second, an absolutely unknowable condition of a market at any given time. If I am in the produce business in Nashville handling citrus fruits I hesitate to buy a car moving by rail because all the market information I have is utterly unreliable and may be destroyed by the coming in tomorrow of half a dozen truck loads of standard fruit, off-grade fruit or anything. I had another experience. I was at Winter Haven in Florida last winter —I think it was Winter-Haven,—it might have been Lakeland. A truck drove up and the driver of the truck commenced talking with one of the packing houses and shortly after that the porter began to bring out field boxes of rejected fruit—a field box holds about 1¼ crates. He put a number of them down there and I asked him what he was going to do with that. He said then he just sold seventy field boxes to this man for $7.00, ten cents a field box. I [fol. 733] got in conversation with the trucker. I said, what are you going to do with it. He commenced to sort it out, take out the blue molds and soft spots and said, I am going to take it to Atlanta. I said, what are you going to do with it when you get to Atlanta. He said, for the best of this fruit I hope to get ten cents a dozen. For the rest of it I will take anything I can get. Well now, it is that man and the many others that have destroyed an organized fruit market in Atlanta, which in turn has demoralized the prices which the organized fruit market can pay to the

growers. There has been no greater blow to the farmer in the United States, so far as perishables are concerned, than highway competition.

Q. In that connection are you familiar with the action recently taken by the fruit growers of California in relation to this truck competition?

A. I have that. It has been repeated, you know, all over the United States,—repeated right here in Nashville where there was an organization formed by the principal dealers. I have brought that. I think it would make a good addition to the record.

Q. I will ask you to file that as Exhibit No. 1 to your testimony?

A. I will.

(Paper so filed and marked.)

[fol. 734] (Thereupon the witness read the exhibit.)

Q. The N. C. & St. L. Railway handled a great deal of road construction material in the last several years, hasn't it?

A. Quite large quantities, yes, sir.

Q. Now, in your opinion, has the benefit of that transportation equalled the damage to the railroad business as a whole by reason of the construction of public roads parallel to our system and the use of trucks?

A. You look at it in two ways. The immediate handling of those materials brings your earnings up for the moment. It makes a very valuable contribution to your showing but every ton you bring in means an unending loss because of the competition that it ultimately creates. So you do pay enormously because it is handled. I don't mean our line in particular. I refer to the railroads in the country as a whole. In the boom year 1929 we handled less tons of commercial freight than we handled in 1917 and substantially less than in 1920 and much less than in 1918, but the total went up because of our movement of cement, clay, sand, gravel, petroleum, automobiles and trucks. I might add as to automobiles and trucks there has been a revolution there. Formerly all automobiles, with an exceptional car that might be delivered to an individual, who wanted to begin the trip from the manufacturing point, moved by rail. It is now estimated that fifty per cent of the entire automobiles produced is in the form of what is known as

[fol. 735] drive-aways, that is, these very long trucks some of them able to pick up and carry four or five or six automobiles. Either that, or it takes the form of a dealer, we will say, in Atlanta, employing five or six boys, young men, at nominal wages to go to Detroit, load them all up in a car and send them to Detroit and each one drive a car back.

By Gen. Beeler:

Q. Even as a railroad man you wouldn't advocate going back to the days when we didn't have any good roads?

A. No. General, to some extent I think good roads serve a definite purpose. Personally, I quarrel with the direction good roads have taken. I think if we had spent our money largely on lateral roads which would serve the back country and enable the remote farmers to bring their produce or whatever it might be into market it would have been a marvelous thing, for seemingly we have built our roads merely to serve citizens who want to travel between the populous centers for pleasure or anything else.

Q. Don't you think federal regulation of motor carriers would help a whole lot?

A. Yes, sir, effective regulation of interstate motor carriage, not confined to regular men that would do business, but including all forms of for-hire trucking, effectively maintained, would, of course, be a very great relief because there would be some to be stopped. General- here [fol. 736] is the situation. It is really comical, in one sense. A man comes in the office this morning and says, you have been hauling corn for me from Denver, from Johnsonville, from Camden, to Nashville. I have been paying you ten cents. I can get a truck for eight. Now, if you will make it eight cents you will keep on handling it by rail. What am I going to do about it? There is no known way we can check his statement that it is eight cents, or that it is any number of cents. I have got to take his word for it or guess. Suppose he does go down here to a corn merchant and wants to sell him. That grain merchant has no idea on the face of the earth what his neighbor, right around the corner can get that same transportation service performed for, don't you see. So what does he do? He squeezes down the price to the lowest ultimate cent in order to protect himself. He can't do anything else. Now, the regulation

comes in not only to keep the truck right and curb the railway management, but that Mr. A in business might know the transportation of Mr. B in the same line of business so that he could operate with certainty. Today it is chaos. No man knows the transportation bill that the other fellow pays although he is in competition with that fellow, and we are right back to 1887, only worse, and that is intra as well as interstate.

Further deponent saith not.

Chas. Barham, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. (Seal.)

[fol. 737] In the Chancery Court at Nashville, Tennessee

No. 44,043

The Nashville, Chattanooga & St. Louis Railway

vs.

Robert H. Baker et al.

Deposition of Charles Barham—Filed July 10, 1933

The depositions of Charles Barham, W. K. Tate and W. G. Templeton taken by agreement at 930 Broadway, Nashville, Tennessee, on Thursday morning, July 6th, 1933 at 10 A. M. All formalities as to notice are waived and all exceptions of very kind, except as to the frame and style of the questions are expressly reserved to the hearing. It is agreed that the shorthand reporter, who is also a Notary Public, may swear the witnesses, sign their names to their testimony and deliver the same to Fitzgerald Hall for filing in the usual way.

Present: Representing Respondents, Roy H. Beeler; Representing Complainant, Fitzgerald Hall.

[fol. 738] **Rebuttal Testimony**

The first witness, Charles Barham, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Mr. Barham, partially in the light of what has transpired since you previously testified and with the compilation of additional data, please compare, in a general way, the transportation situation as it existed approximately in 1915 with the situation as of today, July 6, 1933.

A. Since 1915, there has been little less than a revolution in the general transportation situation. Twenty years ago the great bulk of all inland transportation in the United States was done by the railroads of the time, except that handled by steamers on the Great Lakes and along the coast. There was a little river traffic, a little canal traffic, but both were negligible. There was no such thing as air traffic, while traffic on highways was almost entirely in the movement of goods to and from railroad stations.

In my testimony in chief, given March 25th, 1932, I discussed the revolution in transport that has resulted from [fol. 739] the development of motor vehicles, with its corollary, the extension and improvement of highways. Developments in traffic movements since that time strengthen the picture then drawn. Since the middle of March of this year, there has been a distinct upward trend in the freight traffic of the N. C. & St. L. and of other railroads. However, in a statement in the Wall Street Journal, Charles C. Cotterill, General Counsel of the American Highway Freight Association, which is a national organization of freight carrying motor truck operators, says that the increase in truck traffic during the same period has been far greater than the gain in railroad loadings.

In his interview discussing the railroad report for the second week of May, Mr. Cotterill points out that the apparent increase in car loadings was between 2 and 3 percent over the preceding week, while the increase in the volume of highway freight in the three or four weeks then past was absolutely phenomenal. Mr. Cotterill particularly criticised the use of railroad loading figures as indicative of the movement of goods to retailers and distributors. He said that trucks had taken over the bulk of this business.

For lack of accurate reports Mr. Cotterill's assertion of a phenomenal increase in truck traffic is not susceptible of

statistical demonstration, but no one who is much upon our highways will dispute his statement.

[fol. 740] Mr. Cotterill talked in generalities. Coming to the particular matter now before us, there are pending before the Railroad and Public Utilities Commission of Tennessee, three applications to put in new freight truck lines over the route of which the underpass in this case is part.

In addition to a tremendous development of highway and motor truck traffic, with its effect upon the railroads, through the aid of government funds there has come about in the past twenty years a striking development of transportation by air and by inland waterway. These agencies of public transportation are mentioned to emphasize the fact that railroads no longer have anything which approximates a monopoly in transportation, and with the idea of bringing into greater relief a question that seems semi-social and semi-constitutional—that is the power of the State to require one form of carriage, the railroads, to spend money directly for the primary interest of competing forms of transportation.

To collect the money of railroads in the form of taxes, and, along with all other taxes, to expend the funds so collected for general governmental purposes is one thing, but to make railroads, of all tax-payers, the only one to contribute directly to a given transportation project is quite [fol. 741] another thing. While it may be considered argumentative, it seems to me that this Lexington underpass stands in the same category as if the N. C. & St. L. Rwy. were ordered by statute to help finance a landing field at Nashville to be used by competing airways or to help finance a wharf at Memphis to be used by competing waterways.

It is true we are now taxed for similar purposes, but there we are taxed along with all other taxpayers. We are not singled out for special contributions.

The phenomenal development of air transport in the last few years may be considered. The cost of actually flying an airplane is a small part of the total cost of conducting public air transport. Ground installations and auxiliary services are necessary and tremendously expensive parts. The cost of the latter is almost entirely borne by the United States Government, or by municipalities, without substantial contribution by operators of the planes.

Most airports are built and maintained by adjacent cities. The United States, through its Department of Commerce, provides intermediate loading fields and keeps them in readiness for use (By the way, one is on the Lexington Branch between Lexington and Perryville); installs and operates an elaborate system of beacon lights, radio, direction signals, special weather services and the like, which make commercial air transport possible; and, finally, through the [fol. 742] Post Office Department, it subsidizes the operation directly by paying for the carriage of air mail several million dollars each year more than it received in air mail postage, and thus enables the air lines to carry passengers and express at rates far below the inclusive cost of the service given. All these expensive and unnecessary services are directly paid for by the taxpayers of the United States and of the municipalities concerned. They not only yield no taxes, they are a source of expense. Commercial planes using them pay no direct compensation therefor, and indirectly pay only negligible taxes.

This is not to say that these expenditures are unjustified. Perhaps by considerations of national defense, or of general policy, they are, but as concerns the railroads the fact is unaltered that, by public subsidy, their use and revenues are substantially decreased.

Another important factor in the revolution of transport is the development of artificial and semi-artificial inland waterways, together with the operation thereon of government-owned and government-operated barge carriers, as well as of privately operated boats.

These waterway channels are provided by the money of the taxpayers, including railroads. They are maintained from the same source; are open to the use of any person, firm or corporation in the United States, except a railroad [fol. 743] company, without the payment of tolls of any sort, or in any amount; are served, in many instances, by publicly built and financed terminals, open to the use of water carriers at small or no cost. Upon these waterways the government itself operates boats in competition with the railroads, this operation being necessarily financed by tax money taken from the railroads along with all other taxpayers, and the boats are freely allowed to do things which, done by railroads, would be in violation of the law.

Apparently it is the fixed policy of the United States government to enlarge, extend and intensify this form of competition. Large expenditures for navigation improvement, their maintenance and operation, have long been public policy, and of late years the rate of such expenditures has accelerated. Under present conditions, it is freely proposed to enlarge this field of government operation, as part of the movement for industrial recovery.

Through many years the use of waterways facilities created by these great expenditures has steadily declined. Twenty years ago, except for a few packet boats, there was substantially no use of the rivers in this territory, but during the late war the government entered the business of river transportation, and has remained there since. The theory, expressd at the time, was that this river operation [fol. 744] would continue only until such time as the government-owned corporation demonstrated, if he could, the efficiency and economy of water transportation, with the ultimate plan of retiring from the field when the demonstration had attracted private enterprise into it.

This demonstration has now been in operation, under its present form of corporate organizations as the Inland Waterways Corporation, for nine years. By the use of bizarre methods of accounting, the corporation has been able to report that in certain years it has made profit. For the entire period, even by its own methods of accounting, it shows a net loss.

In keeping its accounts, the Inland Waterways Corporation neither pays nor considers the item of taxes on floating equipment, although certainly this would have to be taken into account by any private operator. It charges itself nothing in the form of interest on the $24,000,000 which the United States Government has invested in it, but does give itself credit for interest earned on bank deposits, that is, the unused part of appropriations made by the government which remain in the banks until expended. The War Department of the United States pays executives' salaries of the corporation; the United States Employes' Commission settles personal injury claims; the United States Shipping Board, and other governmental departments, donate property to the corporation; the United [fol. 745] States Post Office handles its mail free under government frank. All these are items of expense which a pri-

vate corporation must meet, and are as truly parts of the cost of the government's operation as if they appeared in the books. The cost is there, but it is paid by the general taxpayer, not by those who use the services of the Inland Waterways Corporation.

In addition to government operated boats, all privately operated boats have the great advantage of ability to use improved and maintained waterways without the payment of tolls of any sort. The huge investment of tax money in creating and maintaining these facilities is, in effect, turned over without cost to the use of those fortunate enough to be in position to employ them. It is now proposed greatly to enlarge the government's investment in such facilities on the Tennessee, Cumberland and Mississippi Rivers in this section, with the idea of encouraging and developing the use of these waterways. If the present policy of giving the use of these channels free continues, we may expect to see a still further revolution in transportation in this section.

This especially true because of the diversion of traffic from all-rail or rail-barge or truck-barge routes. The extent of this revolution in movements by trucks to barges [fol. 746] operating on subsidized waterways, may be gauged from the fact that more than 30 percent of the cotton going to the Memphis market in the crop year 1931-32 was by truck, whereas, the percentage in the year 1929-30 was only 6.8.

Not only has the loss of tonnage to the railroads because of this revolution in transportation been serious, it has been necessary also to reduce the rates on much of the traffic remaining, in order to hold it to the rails and in order that "inland" towns and merchants may not be put at too great a disadvantage in competition with those fortunate enough to be in position to enjoy the bounties of government. It may be argued that this loss to the railroads, or to our inland communities, will be overcome by the general benefit, if, in fact, such barge movements or truck-barge movements represent a truly lower cost of transportation. They do not represent lower transportation cost. On the other hand, the taxpayer's acquiescence in the unloading on him of excess costs of water and highway transport has created, and will intensify, many of the economic mal-adjustments from which we suffer.

I have gone into these features of air, water and highway competition because, it seems to me, they are all part of a governmental policy concerning transportation. It is a serious, from a railroad viewpoint, a melancholy fact that [fol. 747] the only transportation system which seems to be expected to pay all its own costs, with taxes in addition, is transportation by rail. Railroads, as general taxpayers, are expected to, and do, contribute generally to providing all the facilities so generously furnished by government, states and municipalities to the various forms of public transportation competing with them. However, it has not yet come to the point where the railroad, as a railroad, is directly and exclusively required to help provide landing fields for airplanes or docks for barges. To require of us that we pay specifically to help provide ways for competing traffic on our highways seems to me no different in principle.

Q. Mr. Barham, taking the year 1932 as more or less typical, were any passengers on N. C. & St. L. Railway trains killed?

A. We handled in 1932, 285,398 passengers without a fatality or serious injury to anyone.

Q. Please give the comparable figures for the same year for the railroads of the country as a whole.

A. I have been unable to find the figures for 1932 and doubt if they have been compiled. We have the fatalities. There were twenty-eight passenger fatalities on the railroads in the United States, one of which was a revenue pas- [fol. 748] senger and the other twenty-seven were railroad employes or non-revenue passengers. I can't give you the total passengers handled in 1932. It is estimated at 480,000,000. The exact number in 1931 was 536,390,924.

Cross-examination.

By Gen. Beeler:

Q. Mr. Barham, can you give the comparable figures with reference to the assessed valuation of the N. C. & St. L. Railway's property for last year over what it was the preceding years, two or three or four years back?

A. I have here a statement prepared by Mr. H. H. Cartwright, who has testified heretofore in this case, and I will put this statement in the record at this point:

[fol. 749] N. C. & St. L. Rwy. (Excluding Subsidiary Companies)
Tennessee Taxes (ad valorem)

Year	Valuation for taxes	Taxes	Average rate
1932	$17,000,000	$339,984.75	$2.00
1931#	20,000,000	411,662.15	2.06
1930	26,000,000	611,792.39	2.35
1929	26,000,000	593,049.92	2.28
1928	24,795,303	535,394.27	2.16

Assessed at $23,750,000.
Litigation pending.

Further deponent saith not.

Charles Barham, By W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 750] W. G. Templeton, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

Q. Please give your full name, address, position, and railroad experience?

A. My name is W. G. Templeton, Nashville, Tennessee, and I am General Manager of the Nashville, Chattanooga & St. Louis Railway. I was employed as telegraph operator in 1890; as train dispatcher in 1893; as Clerk in the Superintendent's office in 1911; as assistant superintendent in 1914; and as general manager in 1927, which position I hold at the present time.

Q. Compare the economic relation between good roads and railroads as of 1900 and today.

A. Before we had the automobile and good highways, practically all the country roads and highways led from farming sections and timber lands to the railroad stations which were maintained about five miles apart, and were used in connection with the railroads for marketing the products of the community.

At this time neither the federal government nor the states [fol. 751] as a whole, and this is certainly true for Tennessee, had a centralized body in charge of highways. The

traffic conditions at that time made impossible any long haul in commercial transportation of commodities. There was no systematic planning of through highways like the Memphis to Bristol highway, or the Lincoln Highway, or the Lee Highway and so on. All of this was to await the development of the automobile. The citizens were dependent on animal-drawn vehicles, there was very little pleasure riding, and in the conduct of their business, the trip was usually to the nearest railroad station and then by train to destination, while at the present time, on account of the good highways and the use of automobiles and trucks, traffic moves long distances over the highways, passing the railroad stations which formerly handled the traffic, enroute to large trading centers or to the consumer, not only to points in Tennessee but to points in other states.

Formerly the supplies for local communities were moved from other local communities or large trading or distributing centers by railroad, which at present a large part of this traffic moves direct over the highways.

There is also heavy automobile and truck traffic moving over the through highways from other states in competition with the railroads.

[fol. 752] At present, instead of the roads being feeders for the railroads, they are used largely as competitors and business is moved away from the railroads. On account of the traffic now moving over highways by motor vehicles, the business has to a large extent disappeared at local railroad stations, making it necessary to close 125 out of 258 of the depots as station agencies on our line, or practically one half of them.

Q. Compare the traffic and safety problems at grade crossings now with those existing in the "horse and buggy" days of 1900.

A. Several years ago grade crossings were not marked with sign boards or other devices to warn the public that they were approaching a grade crossing, but the public depended largely on hearing or seeing the train, and at night were dependent on hearing the train or on seeing the light from the oil headlight which, on curves, gave very little warning, while at the present time practically all highway grade crossings have sign boards warning the public and, in addition, at many crossings, especially where the view is materially obstructed, wig wags or automatic electric

flashing light signals are provided to warn the public of the approach of the trains in ample time for the vehicle to be stopped before fouling the crossing. In addition, engines are provided with electric headlights, the reflection from which can be seen for long distances even though [fol. 753] the train may be approaching on a curve. Automobiles are also provided with headlights which enable their drivers to see the crossing signs and even the roadbed in ample time to stop before fouling it. Engineers have a better opportunity with the use of the electric headlights to see obstructions on crossings and stop their trains. As a matter of fact, at present about ninety-nine per cent of all traffic over highway grade crossings is handled by motor vehicles. Motor vehicles and trains are equipped with electric headlights and high-speed brakes, grade crossings are maintained in practically as smooth and in as good condition as other parts of the highway, crossings are indicated by signs and a large number provded with automatic electric signals indicating the approach of a train. With these changes in conditions, there is no excuse for an accident at a crossing if the driver of a motor vehicle uses reasonable care.

Q. To what extent are automobiles now a menace to the safe operation of railroads at grade crossings?

A. Many of the vehicles on public highways today are often as large as and longer than box cars used on railroads thirty years ago. The big automobiles of today, some of them sixty or seventy feet long and come with load weighing fifty thousand pounds, are practically as much [fol. 754] of a menace to safe travel by train as are trains to the safe travel on public highways. We often have drivers of automobiles, without justification, run into our trains damaging our equipment and endangering the lives of our employes and passengers. The striking of large and heavily loaded trucks and tractors often derails the train. It is especially dangerous if these trucks are loaded with explosives or inflammable-. We had a very serious accident at Normandy in July, 1925, when the Dixie Flyer struck a truck loaded with gasoline which caught fire and, had it not been for the judgment of the engineer in keeping the train in motion until it had passed through the flames, the train and passengers would probably have been burned. At the time the engineer pulled the train through the fire his

clothing was blazing, which injured him to such extent that he has never since been able to work, and his fireman was burned to the extent that he died in a few minutes after the accident.

I recall another case on the Atlanta Division when the Dixie Flyer struck a tractor with a road grading machine and derailed the train, but, fortunately, no one on the train was injured.

We had another case at Rosser a short time ago when a truck and trailer loaded with heavy steel construction material ran into a passenger train, damaging the equipment seriously.

[fol. 755] Most any automobile or truck is liable to derail a train by striking it or by being struck by a train. This is especially true if there is a switch stand near which may be knocked down.

Q. Compare the situation at grade crossings today from the operating standpoint with that which obtained in the nineties or thereabouts.

A. In the early nineties trains were controlled by the use of hand-brakes, with the exception that engines were provided with power brakes. When it was necessary to reduce the speed or stop the trains, the engineer sounded the while signal calling for brakes and the brakemen had to go from car to car and set the handbrakes on a sufficient number of cars to control the train. This required considerable time and the train traveled a considerable distance before the speed was checked or the train stopped. The time required depended on whether or not the cars were wet with rain, sleet or ice and whether or not all the cars in the train were of the same height so the brakemen could pass from one car to the other quickly. It was often the case they had to climb down off a box into a coal car and out of the coal car back to a box car and down into a flat car and back to box car, etc. In either case considerable time was consumed in setting enough brakes to control the train, making it almost impossible to stop at road crossings after the engineer saw an obstruction.

[fol. 756] At the present time the locomotive and each car in a train is equipped with high-speed automatic brakes with high braking power affected through the use of compressed air. The engineer, by a slight movement of his air brake valve lever, can apply the brakes within a few

seconds to the maximum braking power on the entire train. In fact, at present the brakes can be applied to every car in train within less time than one hand-brake could be applied under the old system. The result is that we can now stop a train four or five times as quickly as was possible under normal conditions with the hand brakes.

Providing trains with high speed brakes operated automatically, cost the railroads large sums of money to install as well as to maintain, but added materially to the safety and prevention of accidents at grade crossings. Prior to the enactment of the statute requiring the railroads in Tennessee to maintain grade crossings and the approaches thereto, the crossings were rough, in many cases the rails were several inches above the road, the approaches on each side were often muddy with steep grades, requiring considerable time and effort to get highway traffic across the railroad, while today the railroads are maintaining the crossings practically as smooth and in as good condition as the highways, with the result that traffic can pass safely and quickly over the crossings.

[fol. 757] Before the advent of the automobile all the traffic was handled by animals, a large percentage of which were frightened by a train and often forced the driver to take chances in getting across the track ahead of the train for the reason that he could not control the animal if he stopped at the crossing, while at present practically all traffic is handled by automobiles which can be easily stopped at the crossing, waiting for trains to pass without danger to either the automobile or the train. Automobiles with brakes in good condition can stop even if running thirty or forty miles per hour, after their drivers see the railroad crossing or the approach of a train, before fouling the crossing. There is very little excuse, if any, for any reasonable cautious person to be injured at a railroad crossing.

Cross-examination reserved until a later date.

Further deponent saith not.

W. G. Templeton, by W. Howard Fish, Reporter.

Sworn to before me at the time given. W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 758] W. G. TEMPLETON, recalled for cross examination, deposed as follows:

By Gen. Beeler:

Q. Mr. Templeton, in your deposition in chief you spoke about the fire hazard that was caused by certain trucks that operate over the highways carrying gasoline and explosives. You made reference, I believe, to some accident that happened near Normandy. Now, of course, that fire hazard would have been entirely eliminated if there had not been a grade crossing at that point?

A. Yes. If it hadn't struck the truck, of course, we wouldn't have had the accident.

Q. And that would have been eliminated by a regulation prohibiting these trucks from carrying these explosives too, if they had observed the regulation?

A. Yes.

Q. Now, you have automatic brakes on these freight trains at the present, don't you—air brakes?

A. Automatic air brakes, yes, sir.

Q. And that is in the interest of safety and it is to enable you to stop these trains very rapidly and within a short space, a short distance.

[fol. 759] A. Shorter than with the ordinary hand brake.

Q. Now, what is the object of those brakes other than to protect the traveling public and protect people on the trains from any obstructions that might appear on the track?

A. Stopping of trains at stations or where it is necessary to stop, and stop them quicker than you could with the old hand brakes and much safer.

Q. There has never been any contention by the Railroad that the motorists traveling along the highway ought to pay for the cost of the installation of those brakes, has there?

A. No.

Q. Now, Mr. Temple, you are general manager of this N. C. & St. L. Railway. I would just like to get your idea as to what is the solution of the trouble that the railroads find themselves in from motor truck and motor bus operation and from passenger car operation. What do you think the answer to the whole situation is, if the railroads are to survive?

A. Well, my personal opinion is that—I don't quite agree with Mr. Barham over there. I think we have built more highways than we can afford. I don't believe the people can afford not only what they have built but to maintain them, but so far as transportation is concerned, motor [fol. 760] vehicles, automobiles, etc., as compared to the railroad, I think the only solution is to require the automobile and the truck to pay a proper proportion of the tax, in proportion to the use of the highway. Then if he can afford to handle it after paying his proper proportion of the tax, provide the road to run on and his proper proportion of the tax, I mean on his property, then if he can operate, all right, by regulation the same as we are regulated, that is interstate or state regulation. But regulation is not going to do any good unless he pays his fair proportion of the expense as we are required to do. I think that is the only solution for the railroad, is for these fellows to pay their proper proportion of the expense and to be required, that is, to be regulated the same as we are regulated, and then they may be able to handle some traffic profitably and what they can't handle profitably the railroads will handle, and I think that would be cheaper for the general public for the railroad to handle that part of the traffic that they can handle more economically than trucks rather than for the whole people to give the trucks a free highway and low taxes so they can charge less than the railroads, because the man that gets the freight never gets through paying his freight bill. He is paying freight bills in the nature of bonds as long as he lives—longer than a great many of them live. While we, when you pay our freight bill we have to pay all the taxes with it, and they ought to be required to handle all kinds of traffic if we are [fol. 761] required to handle all kinds of traffic. As it is they just pick the cream off of it. Our freight rates have been built up on low rates for raw materials and the higher rates for the finished products, while they come in and say we won't handle low grade stuff but we will take all the cream of it, which is the manufactured products, and handle it at rates cheaper than the railroads are handling it for it is necessary for the railroads to have a higher rate on the finished products than the raw material in order for them to break even. That is my opinion of it.

Q. What is your opinion as to how these trucks and bus

operators should be taxed, on a flat privilege tax or taxed on a mileage basis or ton mile basis or how?

A. I expect a ton mile basis probably would be fairer than a mileage basis because there are different weight vehicles, etc. operated. It would be hard to put a flat tax on them. The ton mile basis I should say would be fairer, and if you are not going to make them handle all characters of traffic, then make the ton mile rate higher for one class of traffic than you will another, on the finished products higher than you would on the raw material, but make him pay his proportion of all the expenses.

Q. That is, the use to which he puts the highway—he ought to pay in proportion to that use?

[fol. 762] A. Yes, and I really think everybody ought to pay in proportion to the use of the highways. Of course, I don't expect to ever see it but I think the highways should be toll roads paid for by those that use them instead of free roads for everybody to use. Then we would get our proportion of the through traffic.

Redirect examination.

By Mr. Hall:

Q. Mr. Templeton, as I understand you, if the commercial transportation by automobile, including trucks, is regulated in the same general way as the railroads, if they paid taxes on their property in the same way that railroads do, and if they paid a reasonable rental for the use of public property for private business, then if the railroad industry can't survive we have got no ground to complain?

A. That is my idea. I don't think the railroads could afford to ask for public support if they can't economically operate.

Q. Now, do you know of any city or any county in Tennessee that pays any proportion of grade crossing protection by watchmen, gates, wig-wags, or other devices, or is that paid by our own company?

A. I should say that we paid it. I don't know of any. I never heard of them paying anything.

[fol. 763] Q. Did you ever hear of a bus or truck company being asked to contribute to the cost of a crossing watchman or crossing gate or flashing light at a crossing or anything of that sort?

A. Never heard of it, no.

Q. Did you ever hear of the automobile business or any part of it being asked to pay directly anything towards the cost of a grade separation project either in the city or out of the city?

A. I never heard of it, no.

By Gen. Beeler:

Q. Do you know of any state that has a law to that effect, Mr. Templeton, that the motor vehicle carrier shall pay any part of the cost of grade separation?

A. I am not familiar with the regulations of the states. I don't know of any, no.

Further deponent saith not.

W. G. Templeton, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. My commission expires January 6, 1936. (Seal.)

[fol. 764] Stipulation Regarding Deposition of W. G. Templeton

"W. G. Templeton, being first duly sworn, deposed as follows:

Direct examination.

By Mr. Hall:

"Q. Now, that the new underpass at Lexington has been completed and connecting links of road completed, what effect, if any, has this had on the operation of the N. C. & St. L. Ry. trains and cuts of cars through and near Lexington?

A. It hasn't had any. The grade crossing is still there and we have to observe the same restrictions and precautions to traffic. We have to maintain the crossing and maintain the signal and keep the same lookout and when we stop with a long freight train going south we have to cut the crossing, and have got to stop back behind it and go down to the station to get water or coal. I can't see that

there is any difference now as compared to the period prior to construction of the underpass.

Q. Does it save you anything in money or effort to protect against accidents?

A. None in the world.

Cross-examination waived.

Further deponent saith not.

W. G. Templeton, by W. Howard Fish, Reporter.

Sworn to before me when taken. W. Howard Fish, Notary Public. My commission expired January 6, 1936."

[fol. 765] L. E. McKeand, being first duly sworn deposed as follows:

Direct examination.

By Mr. Hall;

Q. Please give your name, age, residence, occupation and qualification.

A. My name is L. E. McKeand, 54 years of age and am a resident of Nashville, Tennessee. I have been in the service of the Nashville, Chattanooga & St. Louis Railway continuously for thirty-five years, during which time I have filled the following positions. One year as clerk in traffic department; four years as secretary to chief engineer; twelve years as chief clerk to chief engineer; three years as member of valuation committee and auditor. Two years as general auditor during federal control period. Six years as auditor of miscellaneous accounts; four years as treasurer and assistant to president; one year as treasurer and assistant comptroller; two years as comptroller, which position I now hold.

Q. Give the value of the Nashville, Chattanooga & St. Louis Railway, separately for each of the five years ended December 31, 1931, based on the methods and figures of the Interstate Commerce Commission.

[fol. 766] A. The physical property of The Nashville, Chattanooga & St. Louis Railway was inventoried by the Interstate Commerce Commission as of June 30th, 1916, to which 1910-1914 basic prices were applied to all units except real estate, to which 1916 basic prices were applied.

The commission on basis of this inventory reported a final value of property, for rate making purposes of $69,845,-395.00.

By adding to this original valuation capital expenditures, representing addition and betterments to the property, made since June 30th, 1916, the following values were obtained as of:

September 31st, 1927	$85,930,354.00
" 1928	87,948,079.00
" 1929	88,899,619.00
" 1930	90,073,597.00
" 1931	90,174,217.00

Q. Give for each of the same years the net corporate income of The Nashville, Chattanooga & St. Louis Railway, defining that term.

A. Income accounts are designated to show, as nearly as practicable for each fiscal period, the total amount of money that a carrier becomes entitled to receive for services rendered, the returns accrued upon investments, the [fol. 767] accrued costs paid or payable for services rendered by it, the losses sustained by it, the amounts accrued for taxes, for use of moneys and for use of properties of others, and appropriations made from income during the period. The net valance of income (or loss) to be transferred to Profit and Loss Account.

The net corporate income of the NC&STL for five years ended December 31, was

1927	$2,325,821.00
1928	2,972,668.00
1929	3,623,949.00
1930	922,137.00
1931 (these figures in red)	419,425.00

Q. Give for the said years the total taxes of all kinds paid by the N., C. & St. L.

A. Taxes of every description paid during the five years ended December 31, were as follows:

1927	$1,054,592.08
1928	1,080,404.42
1929	1,094,813.46
1930	740,639.32
1931	690,354.70

[fol. 768] The reduction in the amount paid during the years 1930 and 1931 is accounted for by the fact that during the year 1930, we paid only $83,418.96 as Federal Income Tax and during the year 1931 we paid no Federal Income Taxes at all. Our average Federal Income Tax for the years 1927, 1928 and 1929 was $381,191.35.

In addition to property belonging to the N., C. & St. L., taxes on which are included in the foregoing figures, this Railway, also operates under lease from the State of Georgia a line of railway extending from Chattanooga, Tennessee, to Atlanta, Georgia, a distance of 138 miles. Under the terms of the lease contract no specific taxes are paid, but the rent paid the State of Georgia covers the use of the property plus taxes.

Q. Has the N., C. & St. L. since the Transportation Act of 1920 was passed ever earned as much as 5¾ per cent on the fair value of its properties owned and used in public service?

A. No, I understand Mr. Parmelee, in his testimony, has given the details.

[fol. 769] Q. To what extent have dividends on N., C. & St. L. stock been modified in the last 18 months?

A. During the last 18 months we have paid semi-annual dividends as follows:

February 2, 1931	$639,925.46	Regular 2½ per cent.
August 9, 1931	383,966.00	Reduced to 1½ per cent.
February 1, 1932		Dividend passed.

Q. What is the total amount actually paid by The Nashville, Chattanooga & St. Louis Railway on grade crossing projects in Tennessee pursuant to the provisions of Chapter 132 of the 1921 Public Acts of Tennessee as amended?

A. Pursuant to the provisions of Chapter 132 of the 1921 Public Acts in Tennessee, as amended, we have paid $252,938.38 on grade crossing projects in Tennessee.

Q. In addition to the $252,938.38 expended under the provisions of Chapter 132 of the Public Acts of Tennessee the N., C. & St. L. has spent an additional amount of $223,683.28 representing grade elimination projects and not included in foregoing figures.

A. Omitting from consideration grade elimination projects, how much annually for the past ten years has The Nashville, Chattanooga & St. Louis Railway been con-

tributing directly to grade crossing protection by all methods, such as street lighting, flashing lights, wigwags, crossing protection, etc.?

[fols. 770 & 771] A. Omitting from consideration all grade elimination projects we have expended during the past ten years, covering the installation of street lights, wigwags, flashing lights, etc., a total of $109,891.71, and have spent during the same period for crossing watchmen and maintenance of crossings and signs an additional $990,-493.00, making a total of expenditure for this class of protection during the ten years of $1,000,384.71.

Q. Have the users of motor vehicles or others been required to pay or repay any portion of this expense?

A. Users of motor vehicles have paid no part of the expense.

Cross-examination reserved.

Further depo-ent saith not.

L. E. McKeand, by W. Howard Fish, Reporter.

Sworn to before me at the time taken. W. Howard Fish, Notary Public. (Seal.)

[fols. 772-774] IN THE CHANCERY COURT OF DAVIDSON COUNTY, TENNESSEE

[Title omitted]

STIPULATION OF COUNSEL—Filed June 18, 1932

The attached four photographs, being Neg. B4737 to Neg. B4740, both inclusive, were taken at the site of the underpass involved in this litigation on June 6, 1932, to show the underpass and the situation as of that date, as well as the territory over which the proposed road will be projected through the underpass.

It is agreed that these four photographs may be incorporated into the record as evidence in this cause.

This June 15, 1932.

(S.) Fitzgerald Hall, Counsel for Complainant.
Roy H. Beeler, Counsel for Respondents.

[fol. 775] IN CHANCERY COURT, PART ONE, DAVIDSON COUNTY

[Title omitted]

STIPULATION AS TO CERTAIN EVIDENCE—Filed June 10, 1933

By agreement, subject to exceptions for relevancy and competency, the parties hereto agree that there may be incorporated as a part of the testimony in this cause on behalf of Complainant Railway the following quotation commencing on Page 229 of the book entitled "The American Transportation Problem," prepared for The National Transportation Committee (sometimes called the Coolidge Committee) by Harold G. Moulton and associates:

"Protection of the traveling public may be expected sometimes to force recognition of a new principle of sharing the cost of grade-crossing elimination upon a fair basis, perhaps that of relative benefits as measured by relative use.

"There is need for a new public policy in this matter to meet the needs of the present transportation situation. So long as we had unimproved roads, used by horse-drawn vehicles, and railroads inadequately equipped with safety [fol. 776] appliances, there was no question as to which user of an intersection was responsible for the hazard, and an equal sharing of the costs of separation of grades may have been even too favorable to the railroads. Train operation today is safe-guarded by a multiplicity of control devices, while on the modern highways, the density of high speed motor traffic is productive of hazards that are reflected in the mounting figures of accident reports. Common fairness would indicate that since the highway user is becoming increasingly responsible for creating a hazard, it is incumbent upon the state, representing the police power, to assume a greater share of the burden incident to its elimination and to apportion the public share fairly among the several levels of government within its jurisdiction. Hazard, however, is not the sole reason for crossing-elimination projects; there is also the impatience of motorists at the delay of highway traffic occasioned by the closing of crossing gates or by the stopping of trains at interssections."

Fitzgerald Hall, Counsel for Complainant. Roy H. Beeler, Counsel for Respondents.

May 11th, 1933.

[fol. 777] In Chancery Court, Part One, Davidson County

[Title omitted]

Stipulation as to Certain Evidence—Filed July 3, 1933

By stipulation of the parties it is agreed that, subject to exceptions for relevancy and competency, the following designated and attached articles may be considered as evidence on behalf of The Nashville, Chattanooga & St. Louis Railway. It is further agreed by counsel, with reference to the attached article by Dr. Duncan, the respondents will have the right, if they desire to exercise it, to cross-examine Dr. Duncan with reference thereto.

The testimony presented through the medium of this stipulation includes in order the following:

[fols. 778-788] Article by Dr. C. S. Duncan, Economist, in regular employ of the Association of Railway Executives, as it appeared in the "Railway Age" of April 29, 1933.

Statement dated May 2, 1933, prepared and sent out of the United States Department of Agriculture entitled "Increasing Use of Motor Trucks in Haulin- Perishable Farm Crops."

A quotation from the statement by Milton W. Harrison, President of the Security Owners Association, with reference to grade crossings, as the same appears in the May 1933 issue of the "Bulletin," a magazine published by the Association of Railway Claim Agents.

Fitzgerald Hall, Counsel for Complainant. Roy H. Beeler, Counsel for Respondents.

June 8, 1933.

[fol. 789] Samuel O. Dunn, having been first duly sworn, testified to tell the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

Direct examination.

By Mr. Hall:

Q. Please give your name, age, residence, and business?

A. My name is Samuel O. Dunn. I am fifty-five years old. My residence is 3500 Sheridan Road, and my business address is 105 West Adams Street, Chicago.

Q. What is your railroad and economic training and experience?

A. I began the study of transportation problems in 1905, when I was an editorial writer on the Chicago Tribune. I became an associate editor and later managing editor of the Railway Age in 1907. On June 1, 1908, this paper and the Railroad Gazette, the two leading railway papers of this country, were consolidated as the Railway Age Gazette. On October 1, 1911, I became editor-in-chief of the consolidated paper, the name of which was subsequently changed to Railway Age. In 1927 the Railway Review, the only remaining weekly railway paper, was consolidated with the Railway Age. In addition to being editor of the Railway Age, I am now chairman of the Simmons-Boardman Publishing Company, which publishes various business papers, including five devoted to railroad transportation and one devoted to marine engineering and transportation. [fol. 790] I have twice been sent as a delegate of the American Railway Association to congresses of the International Railway Association. I have lectured on transportation at various universities, including Harvard University, University of Illinois, University of Wisconsin, University of California, Northwestern University, University of Indiana, Purdue University, and have written three books on transportation subjects entitled, "The American Transportation Question," "Government Ownership of Railways," and "Regulation of Railroads."

Q. Have you read a copy of the bill of complaint filed by the Nashville, Chattanooga & St. Louis Railway in this case?

A. I have read copy of the bill of complaint filed by the Nashville, Chattanooga & St. Louis Railway Company in this case.

Q. Please comment on the functions and use of public roads as of the present time, as compared with their function and use some thirty years ago?

A. During the past thirty years there has been a marked change in the character and function of the highway system. At the beginning of the present century, the public roads were strictly tributary to the railroads, offering a means

of movement from the farm to the town with its railroad station, rather than from town to town. This is indicated by the fact that, while in the eastern states and in the hilly [fol. 791] districts the method of locating each individual road to follow a trail or stream or ridge usually prevailed, in many of the prairie states roads were located by law on each section line and in some states on each half-section line as well. This made every man's farm adjacent to a road. Today while the tributary system of public roads still exists, highways in their modern development are designed to duplicate railway transportation facilities to a large degree, providing a means of transportation from city to city rather than from farm to town. To total mileage of rural roads increased from 2,151,379 miles in 1904 to 3,009,066 miles in 1930. Of the total number of miles or rural roads in 1930, 2,684,570 were local roads and 324,496 were state highways. These latter, a development of the present century, are intercity rather than farm-to-town in character.

Q. Please comment on the character and volume of traffic on these highways at the present time as compared with the situation some thirty years ago?

A. There has likewise been a marked change in the character and volume of traffic on the highways during the past thirty years. At the beginning of the present century the traffic on the roads consisted of horse-drawn wagons, ox-carts and bicycles. Automobiles did not appear until 1893, and were still a rarity ten years later when the first motor truck appeared. In 1930 there were registered 23,042,840 [fol. 792] passenger cars, including approximately 92,500 motor buses, and 3,480,939 motor trucks, or a total of 26,523,779 motor vehicles. These constitute the present traffic on the highways. The highways no longer offer means of transportation merely from farm to town. Instead they offer means of transportation from city to city, not only of passengers but of freight. The average passenger automobile is estimated to travel ten thousand miles per year, and a substantial part of this movement is between cities. Inter-city motor buses in 1929 are estimated to have carried 422,000,000 passengers, accumulating 6,797,000,000 miles. The volume of truck traffic is difficult of determination, but the United States Department of Commerce in a report entitled, "The Commercial Structure of New England," makes an estimate based on the traffic of 1926 which would

indicate that "a total of something like 21,788,000 tons of freight moves over the highways of New England by truck."

Q. Please comment in some detail on the subsidy of government, state and federal, to transportation agencies, other than the railroads?

A. The railways find themselves confronted with subsidized and nationally unregulated competition from our highways, our inland waterways and our airways. Subsidization of commercial highway transportation consists of the provision and maintenace, through federal, state and local funds raised by general taxation or bond issues, of rights-of-ways over which commercial highway vehicles [fol. 793] operate without the payment of charges adequate to meet the costs which the operation of such vehicles creates. Subsidization of inland waterways consists of the provision and maintenance, through federal or state funds, of channels over which inland waterway carriers operate with no capital, tax or maintenance charges whatsoever to pay upon their publicly-financed rights of way; and also in the provision by states and municipalities of barge line terminals which are not supported by the traffic handled through them. Subsidization of air transport consists of the wide-spread municipal provision of airports, in the lighting of airways by the Department of Commerce, and, probably the most important item, in the material excess of the payments made by the Post Office Department for the carriage of air mail over the gross postal receipts from such mail. In other words, a substantial part of the cost of transportation by highway, by inland waterway and by airway is paid through subsidies granted to these agencies of transport from local, state and national general tax funds.

Q. Is there now, or has there been, any comparable subsidy in favor of railroads in general?

A. There is not now and there has never been any such [fol. 794] subsidization of the railroad industry. In the early days of railroad construction, various grants of land were made by the federal government to a limited number of railroad companies, and the claim is often made that these land grants constitute a precedent which justifies the present subsidies granted to all other forms of transportation. An analysis of the railway land grant situation immediately discloses that the foregoing claim has no basis in fact.

Public lands were granted in aid of railway construction in twenty-six states, over a period extending from 1850 to 1871. Under these grants various railway companies have received title to approximately 128,000,000 acres of land. Originally, land grants applied to about 21,500 miles of railway line, but this figure was reduced by the inability of various companies to comply with the conditions imposed by the government. This small mileage is to be contrasted with the 250,000 miles of railway existing.

Between 1850 and 1871, sales of public land for cash in the twenty-six states mentioned above showed receipts of about ninety-four cents per acre. On this basis—the then "going value" of the land—the 128,000,000 acres granted to railway companies were worth $120,320,000. But, unlike present subsidies, the land grant transactions represented an exchange not a gift.

Included in all land grant agreements was a provision which required the railroad receiving such lands grant to [fol. 795] furnish, in perpetuity, reduced rates for the transportation of mail, of government materials and of government troops. Under these provisions the government is now enjoying, in times of peace, an annual saving in transportation charges amounting to approximately $5,000,000. In times of war, these annual savings are much larger.

When it is remembered that some of these reductions in rates have extended over a period of practically eighty years, it will be evident that the total savings to the government during all this time when the land grant rates have been in operation is a very substantial figure. At a payment of $5,000,000 per year, the value of the land granted to the railways would have been fully repaid in twenty-four years and would have been repaid several times during the long period in which the land grant rates have been operative.

Furthermore, these railway contributions to the government will continue indefinitely. In other words, not only have the railways far more than repaid the value of the lands which they received, but the government will continually receive further benefits in the form of reduced railway charges. In marked contrast, subsidies to other forms of transportation will not only furnish no financial benefit to the public treasury, but, on our present basis, will [fol. 796] constitute a continuous drain thereon.

Q. Please comment upon the size and use of facilities on the public highways at the present time used in the transportation of freight and passengers, and compare them with what was available for similar purposes some thirty years ago?

A. The vehicles available for transportation on the highways thirty years ago consisted of horse-drawn wagons, carts, buggies and bicycles. These were light and of relatively small capacity. Today the highways are used by automobiles with capacities ranging upward to seven passengers, motor coaches with capacities ranging upward to forty passengers and motor trucks with capacity ranging upward to ten tons. Pulling trailers of equal size, truck-trains with capacities of twenty tons or more are not uncommon. Automobiles and motor buses are used for business and pleasure, covering distance ranging all the way from short jaunts to transcontinental tours.

Motor trucks and truck-trains bear an increasing proportion of the nation's commerce, largely for short hauls but increasingly for hauls of five hundred to one thousand miles or more. Recently the experimental operation of a refrigerated truck-train from Los Angeles to New York and return received wide publicity. Where thirty years ago the public roads were used by the farmers for travel to town [fol. 797] for the purchase of supplies or for the transportation of farm products for forwarding by rail, today automobiles carry pleasure seekers and business men all the way, even to their distant destinations; while motor trucks convey the farmers' produce and livestock to its ultimate market, carry coal from the mine to the dealer and move all manner of finished products from the factory to the consumer, however distant he may be.

Q. To what extent in general have motor vehicles affected both the volume of traffic on railroads and their gross revenues?

A. The rapid growth and development of highway transportation has worked havoc upon the railroad industry, turning a rapidly growing passenger business into an even more rapidly decreasing one, and exerting, with other factors, a marked retarding effect upon the normal rate of increase in railway freight traffic.

Present railway traffic is materially affected by the existing business depression, so the following comparisons will

stop with 1929, a year of great national prosperity. Since 1929 there have been marked decreases in both freight and passenger business handled by rail.

Railway passenger traffic amounted to 11,848,000,000 passenger-miles in 1890; that means of course, passengers car-
[fol. 798] ried one mile to 16,038,000,000 passenger-miles in 1900; to 32,338,000,000 passenger miles in 1910; to 47,370,000,000 passenger-miles in 1920; and to 31,165,000,000 passenger miles in 1929. Passenger traffic thus showed the following increases: from 1890 to 1900, thirty-five percent; from 1900 to 1910, one hundred two percent; from 1910 to 1920, forty-six percent. From 1920 to 1929 there was a decrease of thirty-four per cent.

Railway revenue freight traffic amounted to 76,207,000,000 ton-miles in 1890; to 141,597,000,000 ton-miles in 1900; to 255,017,000,000 ton-miles in 1910; to 413,699,000,000 ton-miles in 1920; and to 450,189,000,000 ton-miles in 1929. Freight traffic thus showed the following increases: from 1890 to 1900, eighty-six per cent; from 1900 to 1910, eighty per cent; from 1910 to 1920, sixty-two per cent; and from 1920 to the peak year 1929, only nine per cent.

While motor freight competition extends to practically all freight traffic carried by rail, it is practically impossible to measure the effect of this competition upon rail traffic carried in carload lots. Less-than-carload rail traffic, however, is peculiarly vulnerable to highway competition, and great inroads have been made therein, as shown by the following figures:

Less-than-carload tonnage, that is, the number of tons carried in less-than-carload lots, originating on line.

[fol. 799] Class I Railways, United States

1920	53,202,296
1921	41,992,011
1922	43,229,213
1923	44,338,556
1924	40,549,023
1925	40,586,944
1926	39,490,989
1927	38,440,319
1928	36,953,931
1929	36,043,271

Less than-carload tonnage originating on the lines of the Class I railways in the United States as a whole decreased thirty-two per cent from 1920 to 1929. Due both to the depression and to increasing truck competition, this traffic showed further large losses in both 1930 and 1931, falling below 30,000,000 tons in both years.

Q. Please comment upon the grade crossing problem in the light of existing transportation conditions as compared with the situation some thirty or forty years ago?

A. In the light of the marked changes, previously pointed out, which have occurred in the last thirty years in the field of highway transportation, the elements in the highway grade crossing situation must now be evaluated on the basis of conditions presently existing. Thirty years ago the grade crossing problem had arisen, in at least con- [fol. 800] siderable measure, from the construction of railway lines over previously existing highways. Since 1900, this problem has become increasingly one of the construction of highways over existing railway lines.

In this same period, the character of highway traffic has been greatly changed and the volume of such traffic has been greatly increased. In 1900 highway traffic was relatively small in volume and consisted of light, slow-moving and easily controlled vehicles moving for comparatively short distances. At present we have some 26,500,000 relatively heavy highway vehicles, moving at average speeds unthought of three decades ago, and, through their weight and speed, creating a momentum difficult of safe control. In other words, the grade crossing situation, as marked by changes in highway development alone, has been characterized by a constantly increasing hazard.

On the railway side there has been the perfection and the wide-spread installation throughout the country of audible and visible danger signals. There has likewise been, aside from the depression, a constant tendency in freight service toward a reduction in the number of trains run, this tendency resulting from the continuous increase which has been effected in the length of the average freight train. In 1920, for example, the average freight train consisted of thirty-seven cars; in 1929 this average had been [fol. 801] increased to forty-nine cars. Had there been no increase, from 1920 to 1929, in average freight train length, there would have been required, theoretically, to handle the

1929 freight traffic, an increase of approximately one-third on the number of trains actually run. In other words, the grade crossing situation, as marked by changes in railway development alone, has been characterized by a constantly decreasing hazard.

Q. Please compare the gasoline tax on a ton-mile basis between a small car and a large and heavy car?

A. The driver of a small automobile in proportion pays a substantially greater gasoline tax than the operator of a heavy bus or motor truck. On a ton-mileage basis, simple arithmetic makes it clear that in proportion to his use of the road the truck operator pays only forty per cent as much as the owner of a light automobile. Taking for comparison a light automobile and a ten ton truck, it is pointed out that the light automobile weighs about one ton and runs about twenty miles in consuming a gallon of gasoline. Assuming that the tax is four cents a gallon, the owner of the light automobile moves the equivalent of twenty tons one mile on the highway for a gasoline tax of four cents. The ten ton truck and its load, representing a gross weight of sixteen and one-half tons, will run three miles when consuming a gallon of gasoline. The owner of such truck, therefore, moves the equivalent of forty-nine and one-half [fol. 802] tons one mile for four cents. In other words, the truck operator in proportion to his ton-mileage use of the Highways pays only two-fifths as much as the owner of the light automobile.

Q. To what extent do motor vehicles contribute to the general cost of government goods as distinguished from monies paid for roads and bridges for themselves to use?

A. There are certain taxes paid by motor vehicle owners and operators ostensibly for the support of general government. In the light, however, of the marked excess of highway expenditures over the funds collected from motor vehicle license fees and gasoline taxes, it is obvious that there is no net contribution from the motor vehicle owner as such to the general cost of government. In 1929 expenditures for construction and right-of-way, for maintenance and for interest charges amounted to $956,237,000 for city streets and to $1,426,613,000 for rural highways, a total of $2,382,850,000. Motor vehicle license fees and gasoline tax collections in that year amounted to $779,480,000, thus falling short by $1,603,370,000 of meeting the expendi-

tures actually made upon city streets and rural highways. It is obvious that general taxation of motor vehicle owners and operators as such fell far short of meeting this figure of $1,603,370,000 and that in consequence there was no net contribution to general governmental costs.

Q. Please comment on the value of motor vehicles with [fol. 803] having a right of way on which to do business furnished by the government and the extent to which that enables such motor vehicles to successfully compete with the railroad?

A. The subsidies received by commercial highway transportation are obviously of great value. This value may perhaps best be illustrated by a comparison of relative railway and commercial motor vehicle taxes, roadway maintenance costs and roadway capital costs.

Complete figures of gross revenues received and of taxes paid by commercial motor vehicles are not available. In an official publication of the National Association of Motor Bus Operators the statement is made that in 1928 State and local taxes consumed 7.2 per cent of the gross revenues received by common carrier motor buses. Less definite information is available regarding the relationship of taxes to revenues in highway freight service, but estimates based upon figures of the National Automobile Chamber of Commerce indicate that the operators of carrier trucks for hire paid in taxes, in the same year, between three and four per cent of their gross earnings. For the present, we may take the larger figure shown above, and assume an over-statement to be true—that commercial motor vehicles paid in 1929 approximately seven per cent of their gross revenues in taxes.

In the same year, the taxes paid by the Class I railways of the United States amounted to $389,000,000, or to 6.4 per cent of their total gross revenues of $6,112,000,000. At [fol. 804] first glance it thus appears that commercial highway vehicles are relatively overtaxed in comparison with the railways. But, in addition to their tax payments, the railways unlike the highway carriers, had to maintain their rights-of-way and to earn a return upon the capital therein.

Expenditures of Class I railways in 1928 for maintenance of way and structures amounted to $838,000,000, while of the total capital return earned in that year approximately $938,000,000 may be assigned to roadway and structures.

These figures total $1,776,000,000 and thus amounted to 29.1 per cent of railway gross revenues in 1928. Adding to this figure the 6.4 per cent of revenues paid directly in taxes by the railways produces a total of 35.5 per cent. Some deductions should be made from this figure to eliminate maintenance and capital charges on structures, but after this elimination it appears that the railroad industry paid from twenty-five to thirty per cent of its gross revenues in taxes and right-of-way charges while, because of the subsidies which it receives, commercial highway transport paid only seven per cent of gross earnings for these same items.

This does not mean, of course, that taxes on commercial highway vehicles should be fixed arbitrarily at the percentage figure of gross revenues which corresponding railway costs consume. The justice of the economic theory, [fol. 805] however, that these vehicles should be compelled to pay all the expenses which their operation costs the public; to pay their full share to the support of general government; and to pay, furthermore, a reasonable privilege tax for the use of public property for private gain, cannot be denied.

Q. Please comment on the economic soundness of requiring railroads alone to directly participate in the cost of grade crossing protection and elimination, and in so doing, state to what extent, if any, the situation has been changed in the last thirty or forty years?

A. Forty or fifty years ago, when a railroad was constructed across an already existing highway and thereby created a material hazard to the then highway traffic, principles of equity and justice might well have been invoked to compel the rail carrier to pay a material part, if not all, of the cost of eliminating this hazard. The issue is somewhat clouded when a railway crossing over a previously existing highway, representing no material hazard when constructed, has now become such material hazard because of increased highway traffic. Here, possibly, because of prior rights of the highway, the railway may perhaps logically be called upon to pay a part of the cost of removing the hazard, although it is my belief that by far the greater part, if not all, of such cost should be paid by the element which has created the hazard. When it comes to the construction of a new highway over an existing

railway line it is obvious that any material hazard created [fol. 806] is created solely by the highway. To require the railway company to pay a single cent for the removal of a hazard for whose creation it has absolutely no responsibility is an economic absurdity.

Mr. Hall: That is all.

[fol. 807] In Chancery Court of Davidson County, Part One, at Nashville

44043

The Nashville, Chattanooga & St. Louis Railway, Complainant,

vs.

F. W. Webster (Substituted for R. H. Baker) Highway Commissioner, et al., Respondents

Final Decree—December 1, 1933

This cause came on to be heard this November 27, 1933, and former days of the term, before Chancellor R. B. C. Howell, upon the original bill, as amended, and the exhibits thereto, the answer of the respondents and the several [fol. 808] stipulations and testimony in the cause, briefs and oral argument of counsel, upon consideration of all of which it appears to the Court that in this cause the Nashville, Chattanooga & St. Louis Railway challenged the applicability and constitutionality of Chapter 132 of the 1921 Public Acts of Tennessee, as amended, as it related to an underpass on a Federal and State aid through highway at Lexington, Tennessee. The respondents filed an answer and elaborate proof was taken.

It further appears to the Court that:

1. In the taking of the testimony which was by deposition and stipulation, the right to except to the relevancy and competency of testimony was expressly reserved for the hearing. At the oral hearing by agreement no testimony was read but the case was stated to the court and argued by counsel. Thereafter the Court read the entire record. While the testimony took a broad range the court

finds the same was all relevant and competent and properly admissible in the consideration of the questions of fact and law presented by the pleadings.

2. The answer of the respondents in several places denied the right of complainant Railway to challenge the applicability and constitutionality of the State acts in question on the alleged ground that it was essential, before such questions could be raised, that an application for delay in [fol. 809] the building of this underpass should have been made under the statute to the Railroad and Public Utilities Commission of Tennessee. This proposition was not relied on at the hearing, and the court finds that under the pleadings, the law, and the facts as shown by the evidence, the meritorious questions are properly here for decision.

3. The Railway in its bill of complaint suggested that the statutes in question were not applicable, as the existing grade crossing in question at Lexington was not being eliminated and that, therefore, under a strict, technical reading of the law were not applicable to such a case as this. That point was not stressed at the hearing or in the briefs to any material extent. The court is of the opinion that these statutes are applicable to such a situation as is involved in this case.

4. It was alleged in the petition, particularly in paragraph (4) of Section XVIII, that the construction of this underpass was unnecessary. The court finds from the evidence that there are no facts to sustain this averment and that in the interest of commerce by motor vehicle on the public highways, this was a proper engineering project, properly conceived, located, designed and constructed. As an engineering and economic profit it was perfectly sound. The Court further finds that the cost of such underpass, [fol. 810] the same being estimated at Seventeen Thousand Four Hundred ($17,400.00) Dollars is not unreasonable or excessive. However, the Court finds that this underpass did not involve an exercise of the police power any more than many other features of this project, such as the elimination of curves, grades, widening the pavement et cetera.

5. The bill of complaint sets out very elaborately, directly, and also through incorporation of numerous exhib-

its, a detailed state of facts on which complainant Railway relies to support its challenge to the constitutional validity of the Tennessee acts under attack. Except in the one particular just referred to in the immediately preceding paragraph of this memorandum opinion, the court finds that the testimony fully supports all such averments of fact. There can be no doubt under the testimony that this underpass is a part of a state-wide and nation-wide plan to foster commerce by motor vehicle on the public highways, the result of which is to afford competition with railroads and that the decision to build this underpass, its location and construction, was not in any proper sense an exercise of the police power, but rather, as set forth in the bill of complaint, pursuant to a general plan of internal improvement fostered by the Congress of the United States in conjunction with the several states to make a nation-wide system of super-highways in the interest of interstate commerce by motor vehicle, much of which is in active competition [fol. 811] with the railroads themselves. All of the detailed facts and the ultimate conclusions as set out in the bill of complaint are, as aforesaid, fully supported by the testimony with the one exception above noted. The Court, therefore, finds as a fact, with the one noted exception, that the facts relied upon as rendering the statute unconstitutional are all as alleged in said original bill as amended.

6. The bill of complaint did not challenge the validity of the Tennessee statutes in question under all conditions but it was frankly admitted in the brief and the argument that they might be valid under certain situations. The challenge here was only when there exists such a situation as presented by the bill of complaint and the testimony. The Court is of the opinion that the challenge to the validity of these statutes, under these particular conditions, on the several grounds set out in the bill of complaint, is sound and that said statutes are, under such conditions, in violation of both the Constitutions of the State of Tennessee and of the United States and that the order of the Highway Commission of Tennessee supposedly made pursuant to those statutes is also invalid on that account; and that the demand for the payment of money by the Railway towards the cost of this project is without warrant in law and should be permanently enjoined.

[fol. 812] It is, therefore, ordered, adjudged and decreed that Chapter 132 of the 1921 Public Acts of Tennessee, as amended be and it hereby is declared null and void, as being in violation of the Constitution of the State of Tennessee and of the United States, in so far as applicable to such a state of facts, as set out in the bill of complaint as amended and as disclosed by the evidence.

It is further ordered, adjudged and decreed that the order of the Commissioner of Highways, based upon said statutes, directing complainant to pay one half the cost of the underpass in question is null and void, being based on no valid statute.

It is further ordered, adjudged and decreed that the amount of money demanded of the Nashville, Chattanooga & St. Louis Railway is not legally due and the order demanding payment is null and void and the present Commissioner of Highways of the State of Tennessee, his successors in office and authority, and other interested public officials are hereby enjoined from undertaking directly or indirectly to force payment from complainant Railway of this sum of money or any other sums by reason of the construction of the underpass in question located on Route 20 within the corporate limits of Lexington, Tennessee, where it crosses complainant's main line; and that the entire cost of this project be borne by the Tennessee State Highway Commis-[fol. 813] sion, except for contributions by the Federal Government; and the said Commission shall pay to the complainant as provided in the contract (Exhibit No. 4 to the bill) between the State Highway Commission and complainant, dated October 20, 1931, the sums therein provided for. The defendant will pay the costs of this cause.

To the foregoing decree in so far as adverse to their contentions, the respondents duly excepted and prayed an appeal directly to the Supreme Court of the State of Tennessee, which appeal is hereby allowed without the execution of an appeal bond as is provided by law in such cases.

It is further ordered, adjudged and decreed, pursuant to the joint request of counsel for both parties, that all exhibits, both to the original bill, as amended, and to the testimony, after being properly authenticated by the Clerk of this Court, be transmitted in their original form with the record

to the Supreme Court of the State of Tennessee to constitute a part of the record on appeal in this cause.

November 27, 1933.

Approved for entry.

Fitzgerald Hall, For Complainants. Roy H. Beeler, Edwin F. Hunt, For Respondents.

[fol. 814] [File endorsement omitted]

IN SUPREME COURT OF TENNESSEE

THE NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY

vs.

R. H. BAKER, etc., et al.

ASSIGNMENTS OF ERROR—Filed Feb. 8, 1934

May it please the Court:

1. The Court erred in holding that under the facts proven in this case the statute which requires a railroad to contribute one-half of the cost of a grade crossing elimination (Chapter 132, Acts of 1921) is in violation of the Constitutions of the State of Tennessee and of the United States.

2. The Court erred in not holding the statute (Chapter 132, Acts of 1921) and the order promulgated pursuant thereto valid and constitutional and in not holding the complainant Railway liable for one-half of the cost of the grade crossing elimination.

• • • • • • •

Respectfully submitted, Roy H. Beeler, Attorney General; Edwin F. Hunt, Asst. Atty. General.

[fol. 815] [File endorsement omitted]

IN SUPREME COURT OF TENNESSEE

Davidson. Equity

THE NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY

vs.

R. H. BAKER, Commissioner, etc., et al.

OPINION—Filed May 19, 1934

For Publication, Cook, J.

By chapter 132, Acts of 1921; chapter 35, Acts of 1923; chapter 288, Acts of 1925; Code, Sec. 2836 et seq., it was provided that—

"The State Department of Highways, through its Commissioner, shall have power to eliminate grade crossings on any railroad or interurban railway track on any main traveled road designated by the Commissioner as included in the general highway plan of the State, whenever, in the discretion of the Commissioner, the elimination of any such grade crossing is necessary for the protection of persons traveling on any such highway or any such railroad.

"When any such grade crossing is ordered to be eliminated, the Commissioner shall determine the location of the crossing to be substituted and the grade thereof whether it shall pass over or under the railroad track."

[fol. 816] By subsequent provisions of the statute the railroad is required to bear half the expense of eliminating the grade crossing and right of appeal is given the railroad to have the action of the commissioner reviewed by the Railroad and Public Utilities Commission.

The State Department of Highways constructed Highway No. 20 from Hohenwald, in Lewis County, through Henderson County to a highway connection in Madison County and, pursuant to the statute, required the railroad to share the cost of eliminating a grade crossing at Lexington, in Henderson County. The bill was filed by the railway to avoid the action of the State Highway Department upon the theory:

1. That the construction of the highway, its routing through Lexington, and the underpass at the railroad crossing were not designed to meet local transportation needs but to supply a link in a nation-wide system of highways; and the State was not exercising its power in applying to this situation the statute for the elimination of the grade crossing, but was acting in obedience to plans of the Federal Government designed to create a nation-wide super-highway system.

2. That under modern transportation and economic conditions, chapter 132, Acts of 1921, is violative of the organic law, both State and Federal, and under the facts shown by the record, the statute, properly construed and applied, is not enforceable against the railway, because the Highway [fol. 817] Department, by its action, merely created an additional crossing, without eliminating old ones, in obedience to the requirements and in conformity with the regulations of the Federal Bureau of Highways.

The chancellor found that the underpass at Lexington was necessary, was properly located and constructed at a reasonable costs of $17,400. He said that under ordinary circumstances, the statute, chapter 132, Acts of 1921, would be applicable to that situation, but the State Highway Department was not exercising power for the State but was proceeding under and in conformity with the general plan of internal improvement fostered by Congress in conjunction with the several States to make a nation-wide system of highways in the interest of interstate commerce by motor vehicles in active competition with railroads. We quote from the conclusion of the chancellor's finding and decree:

"The bill of complaint did not challenge the validity of the Tennessee statutes in question under all conditions but it was frankly admitted in the brief and the argument that here was only when there exists such a situation as presented by the bill of complaint and the testimony. The challenge here was only when there exists such a situation as presented by the bill of complaint and the testimony. The Court is of the opinion that the challenge to the validity of these statutes, under these particular conditions, on the several grounds set out in the bill of complaint, is sound [fol. 818] and that said statutes are, under such conditions, in violation of both the Constitutions of the State of Ten-

nessee and of the United States and that the order of the Highway Commissioner of Tennessee supposedly made pursuant to those statutes is also invalid on that account; and that the demand for the payment of money by the Railway towards the cost of this project is without warrant in law and should be permanently enjoined.

"It is, therefore, ordered, adjudged and decreed that Chapter 132 of the 1921 Public Acts of Tennessee, as amended, be and it hereby is declared null and void, as being in violation of the Constitution of the State of Tennessee and of the United States, in so far as applicable to such a state of facts as set out in the bill of complaint as amended and as disclosed by the evidence."

The State appealed and insists that the chancellor erred in declaring the act void and in holding it unenforceable under the facts. The courts can not attempt to control legislative policy nor can they inquire into the expediency, propriety, or even the justice of a statute which violates no provision of the Constitution. Henley v. State, 98 Tenn., 665; State v. Lindsay, 103 Tenn. 631; Walters v. State, 2 Shann. Cas. 69; Ballentine v. Pulaski, 15 Lea, 649-50; Townshand v. State, 32 A. L. R. 299.

[fol. 819] In some instances municipal ordinances have been held unenforceable, maybe void, upon a showing that changed conditions render them unreasonable or inapplicable under particular circumstances or a given situation, but we find no authority for extending that rule to statutes. No violation of any provision of the Constitution is apparent upon the face of the statute, chapter 132, Acts of 1921, and none has been suggested by the briefs and argument. It must be conceded that the State, in the exercise of the police power, may directly or through its municipalities, compel railroads to share the cost of eliminating grade crossings at railroad tracks. City of Memphis v. Southern Railway Co., 57 S. W. (2d) 552; Railway v. Drainage District, 149 Tenn. 490; Harriman v. Railway, 111 Tenn. 538. and also that the State may relocate a highway or build a new highway and, when necessary for the public safety may, by the exercise of the police power, require a railroad whose track is encountered by the new location to share the reasonable cost of eliminating a dangerous grade crossing. Chicago & N. W. R. Co. v. Illinois Commission,

55 A. L. R. 654, and annotations; Chicago, B. & Q. R. Co. v. Omaha, 42 L. R. A. 481

The question of whether the provisions of the act in question have been rendered burdensome or unreasonable by changed economic and transportation conditions, or whether under existing circumstances have become unfair [fol. 820] or inquitable, involves matter of legislative policy, dependent on the result of audits and accountings to ascertain the comparative burdens of taxation upon railroads and other modes of transportation and their comparative expenditures and earning capacity. Court can not go into and consider such questions any more than they could consider changed mental attitudes to determine the constitutionality or enforceability of a statute.

The location of Highway No. 20, which is a link in the highway extending from Nashville to Jackson and Memphis, and the requirement of the State Highway Department that the railway share the cost of eliminating grade crossing at Lexington, were acts of the State government. The Federal aid contributed toward the establishment of a State highway system, it appears from the record, would not exceed 10 per cent of the total expenditures by the State. Its contributions were received and applied by the Highway Department as provided by chapter 149, Acts of 1919. The allotment of Federal aid toward the construction of the 9.5 miles of the section of highway from Lexington to Parsons was $100,826.59, or half of the estimated cost of that portion of the road, was accepted by the Highway Department under that Act. The contribution was made on condition that the Highway Department conform to prescribed Federal engineering and construction standards.

Admitting the insistence of complaint that the primary object of highway construction and the object of Federal contribution to highways is to invite and stimulate interstate traffic or travel upon the highways, it does not follow that the State roads are not primarily designed to serve [fol. 821] the people of the State. Assuming that the Federal Bureau of Public Roads, through its power to grant or withhold Federal aid to State roads, dictated engineering details on Highway No. 20, it was nevertheless a State highway connecting the county seats of Lewis, Perry and Henderson counties with other State roads in conformity

with the provisions of section 8, chapter 100, Acts of 1915, and sections 7, 8 and 9 of chapter 149, Acts of 1919.

R. H. Baker, State Commissioner of Highways, testified that the object of the Department of Highways and the object of the Federal Government was to build State roads in such way as to make them connect with main highways of other States. But that would not make the construction of a State highway an act of the Federal Government. We quote from Mr. Baker's testimony as it relates to Highway No. 20, the location of the underpass at Lexington, and the requirement that the railway share the cost of eliminating the grade crossing.

"Q. Who determined to change the existing route No. 20 through Lexington from the Clifton Street crossing to where it now is to the proposed underpass under the Railway's tracks, and why was this done?

"A. Under Section 7, Chapter 149 of the Acts of 1919, the State Highway Commissioner was given power to proceed to designate the main travelled roads with a view of [fol. 822] connecting all county seats and also to designate other main travelled roads which are deemed of sufficient importance to be included in the general highway plan of the State and to receive for their construction and improvement financial aid under the provisions of this act. Under Section 9 of this Act it is provided that whenever the state highway commission feels it necessary or advisable, it shall have power to alter the course or grade or otherwise improve any road selected, adopted or accepted for federal or state aid and take over and improve as a state highway. The original road was a narrow county road and it was necessary, in order to secure proper alignment and grade, to re-locate this road, which was done in accordance with the authority vested by the above-mentioned section.

"Q. Why, in routing this route No. 20 from the Tennessee River to and through Lexington, did the new road not pass through the Town of Perryville and several other towns and municipalities between the River and Lexington now served by the local county road?

"A. The location of Route No. 20 west of the Tennessee River, insofar as its connection with Perryville is concerned, was determined by the bridge site of the Perryville bridge across Tennessee River. The site at which this

bridge was built was far superior to any other in closer proximity to Perryville. The road is located so as to serve [fol. 823] adequately various communities which have been built up along the old road, in some instances requiring a short connection between the new location and the old road.

* * * * * * *

"Q. What was the object of the highway department, if you know, if it was determined while you were in charge, in building this new route from Nashville to Lexington via Centerville and Linden?

"A. The object of the highway department, in constructing roads, has always been to connect county seats and furnish adequate traffic service to local and through traffic, and at the same time open up country which has not heretofore been served with adequate roads or by adequate roads.

"Q. This particular road touches no county seat between Nashville and Centerville, does it?

"A. It does not, no.

"Q. Why is the state highway department undertaking to build this road and this underpass as part of Route No. 20 within the municipal limits of the town of Lexington rather than leave the determination of the route and character of the construction and so on to the municipal authorities?

"A. Under the provisions of Chapter 42 of the Public Acts of 1929 the state highway department is given authority, should it so elect, to build a highway through any in- [fol. 824] corporated town or city in the State of Tennessee. This act also makes it mandatory on the department to pay its proportionate cost, based on eighteen foot width, of any street which is built through any town or city over which state highways are routed. It was under this act and in order to provide a satisfactory length, conforming to the requirements of the department and of the Bureau of Public Roads, that the section of this route through the town of Lexington was included in our plan.

* * * * * * *

"A. Prior to the construction of it the travel has been, on account of the unsatisfactory condition of these roads, held practically to a minimum of local traffic.

"Q. In other words, from Perryville to Lexington this county road was an ordinary country road used as any country road of that general type?

"A. I will say it was a very ordinary country road.

"Q. Why, in forming the line for this new route No. 20 from the Tennessee River to Lexington did you not follow the existing county road?

"A. It was impractical to do so on account of its winding location. In building new roads to such standards as roads are built at this time, following old existing grade, [fol. 825] adequate service cannot be rendered to any quantity of traffic by doing so, and the money spent in perpetuating a road on improper alignment is money wasted.

* * * * * * *

"Q. Can you estimate the prospective traffic density through this new underpass at Lexington and what character of traffic that will be, giving the basis of your estimates?

"A. At the present time the traffic which is using that Route No. 20, both local and through traffic, including the traffic in the town of Lexington, must cross the grade crossing on Clifton Street. When you take into consideration the present condition of Routes 20 and 100 and the betterment which is planned for those routes, it will result in an increase in traffic both as to density and speed. The crossing with the number of train movements which occupy the crossing will become an increased hazard. It was with a view of relieving delays, as well as removing the hazard to the traffic, that we included the grade separation in our plan for the completion of Route 20.

* * * * * * *

"Q. What is the object and purpose of the State of Tennessee in cooperation with the Federal Bureau of Public Roads under the Department of Agriculture, and what are the plans, in general, which you undertake with the Bureau [fol. 826] to work out, and what is it, in general you seek to accomplish?

"A. Well, the object of the Department of Highways and the Bureau of Public Roads in contributing to and building highways is to render traffic service to the people

of the State. That covers, I think, or answers the question you asked.

. . . . . .

"Q. With reference to this underpass, known as the Lexington underpass, please state why you as Commissioner of Highways, considered it necessary to separate this crossing at grade and what prompted you to direct the N. C. & St. L. Railway to participate in the cost of this separation.

"A. The section of road on which the Lexington underpass is located was in the original highway plan of the State for trunk line highways, and the construction of this section has been deemed necessary in order to render the people of the State proper traffic service. The laws of the State require the participation of railroads in grade separation structures on the State Highway system. The necessity for the development of this route in order to provide proper traffic service and the law requiring railroad participation in this grade elimination prompted me to direct that the N. C. & St. L. R. R. should participate in the cost [fol. 827] of the grade separation. The original road which was used for a good many years by local traffic was entirely unsatisfactory in its alignment and grade, and the best information that I have available at the office indicates that there were eight grade crossings on this old road between Perryville and Lexington, including the Clifton Street crossing in Lexington. By the re-location of this as a high standard road, seven of these crossings were eliminated without cost to the railroad company. The eighth which was impossible to eliminate by re-location, is eliminated by the construction of the underpass.

"Q. Does that then leave any grade crossings between Perryville to Lexington on the N. C. & St. L. Line?

"A. It does not—on Route 20.

"Q. Do you recall what that distance is between Perryville and Lexington?

"A. From the Tennessee River to the court house in Lexington by the old route is 24.53 miles. From the Tennessee River to the court house at Lexington by the new route is 21.12 miles.

"Q. Did you, as an engineer, basing your answer or your experience as Highway Commissioner, figure that as

a matter of safety not only to the public traveling along the highway, but to the train crews and passenger crews, [fol. 828] it was necessary to eliminate this crossing at grade?

"A. I did—yes, sir.

• • • • • • •

"Q. You filed as your Exhibit No. 4 to a question propounded to you in your examination in chief a contract on this project for construction of the road between Lexington and Linden made with the Department of Agriculture of the Federal Government under which the Federal Government participates in the cost of this construction. Please state whether or not it is required in that contract that this grade crossing at Lexington be eliminated.

"A. It is required, and I might read the clause in the contract which is termed a Project Agreement for Project No. E-227A, referring to the elimination of the grade crossing. This clause is found on page 5 under Section D of the Project Agreement, which I quote:

" 'The Highway Department hereby agrees that prior to the final payment of Federal aid on this project it will begin the construction of an underpass between Survey Station 15 plus 00 and 36 plus 04 now made an exception to this project. Such construction to be in accordance with the statutes for Federal aid projects.'

"This particular grade separation is the one involved in this lawsuit.

[fol. 829] "Q. Is that the usual practice of the Federal Government in regard to crossings of this character on highways in which the Government participates in the cost?

"A. It is.

"Q. Outside of that requirement by the Government, I believe you stated your judgment as an engineer and as Highway Commissioner prompted you to require the grade separation anyway?

"A. Yes, sir, I did.

• • • • • • •

"Q. Why is it, if you know, that the Government requires grade crossing separation on these highways?

"A. Primarily for the safety of traffic using the highways. It is in the discussion of grade elimination the Government has repeatedly brought out the benefits to the railroad companies by reason of the elimination of grade crossing accidents and serious results to the railroad companies from these accidents.

* * * * * * *

"Q. When Highway No. 100 connecting with Highway No. 20, between Nashville and Memphis, is finished, what will be the effect in regard to relieving Highway No. 1 of some of the traffic that theretofore had been carried on it? [fol. 830] "A. The standard for the location and construction of Highway No. 100 and 20 from Nashville to Jackson—that is, from one end of the route to the other,—is higher than the standard on which Highway No. 1 was built, and for that reason, the fact that the trip can be made faster and more comfortably and safer, this new route to Jackson will relieve Highway No. 1 of a great deal of the traffic it has heretofore carried. It will also relieve State Highway No. 15 of a considerable amount of traffic that it has heretofore carried from east to west and west to east.

"Q. Some contention has been made in the record by some of the witnesses for the railroad company to the effect that the construction of Highways Nos. 100 and 20 were not justified by the conditions that exist along the lines of these routes. Please comment in any way you see fit on this insistence.

"A. Our construction of these routes naturally proves that we disagree with the railroad companies in that contention. The development of the State highway system has been a relatively slow process, but it has gone about with definite ideas of service to the people in mind and definite plans of ultimate construction. The routes involved in this case serve a wide territory otherwise unserved except by practically impassable county roads, and the population which is located within the territory served we feel is en- [fol. 831] titled to proper highway service, and all these things are taken into account in the construction of this route."

The real connection between the purpose of chapter 100, Acts of 1915, and chapter 149, Acts of 1919, and chapter

132, Acts of 1921, and the location and construction of Highway No. 20, and the underpass at Lexington is made clear by the testimony of Commissioner Baker and other evidence in the record. The obvious purpose of the Acts of 1915 and 1919 was to provide a State system of highways and of the Act of 1921 to promote the safety of persons traveling the highways at grade crossings as well as to promote the safety of persons traveling the railroads at such crossings by eliminating dangerous grade crossings. That object falls clearly within the police power of the State and the power was properly exercised when the order was made upon the railroad to aid the State in eliminating the grade crossing at Lexington.

Since chapter 132, Acts of 1921, is not unconstitutional, and since under the circumstances shown by the record it was properly applied to eliminate the crossing at Lexington, the decree of the chancellor must be reversed and the bill dismissed.

Cook, J.

[fol. 832] In The Supreme Court of Tennessee

Davidson. Equity

Rev. and Dismissed

The Nashville, Chattanooga & St. Louis Railway

vs.

R. H. Baker, Comr., etc., et al.

Decree—May 19, 1934

This cause came on to be heard upon a transcript of the record from the Chancery Court of Davidson County, assignments of error, reply brief and argument of counsel, upon consideration whereof the Court is of opinion that in the decree of the Chancellor there is error.

It is therefore ordered and decreed by the Court that the decree of the Chancellor be reversed and the bill be dismissed and that the Nashville, Chattanooga & St. Louis Railroad Co., principal and surety on prosecution bond will pay all of the costs of this cause for which let fi fa issue.

[fol. 833] IN SUPREME COURT OF TENNESSEE

[Title omitted]

ORDER SUSPENDING JUDGMENT—May 21, 1934

Comes counsel for complainants and moves the Court that the execution of judgment in this cause be stayed pending the filing, perfection and disposition of an appeal to the Supreme Court of the United States, upon consideration of all of which the Court is pleased to grant said motion and the judgment of this Court is suspended pending action of the Supreme Court of the United States, and it is so ordered and decreed.

[fol. 834] [File endorsement omitted]

IN SUPREME COURT OF TENNESSEE

[Title omitted]

PETITION FOR APPEAL AND SUPERSEDEAS—Filed June 28, 1934

Now comes The Nashville, Chattanooga & St. Louis Railway, appellant, and says that on May 19, 1934, the Supreme Court of the State of Tennessee, it being the highest court of said state in which a decision could be had in said cause between the above named parties, rendered final judgment herein in favor of Frank W. Webster, Commissioner (having been substituted for his predecessor in office, R. H. Baker, Commissioner), et al., appellees, and against The Nashville, Chattanooga & St. Louis Railway, appellant, in which final judgment in said cause certain errors were committed to the prejudice of The Nashville, Chattanooga & St. Louis Railway, appellant, all of which will more in detail appear in the assignment of errors which is filed with this petition.

That in the record and proceedings it will appear there was drawn into question the constitutional validity of certain statutes of the State of Tennessee, to wit: Chapter 132 of the 1921 Public Acts of Tennessee, as amended (being brought forward subsequent to the commencement [fol. 835] of this suit into the 1932 Code of Tennessee as

Sections 2638 et seq.) on the ground that said statutes, as interpreted and applied by the Tennessee Supreme Court in this cause, permitted the State of Tennessee to require of appellant Railway alone the direct contribution to the cost of a grade separation project on a new federal and state aid through highway, constructed for the purpose of promoting commerce, primarily interstate, by motor vehicle in competition with appellant Railway, when said grade elimination project involved engineering judgment and motor traffic considerations rather than any proper exercise of the police power, which, under the particular facts in the case at bar, is so arbitrary and unreasonable as to transgress both the "due process" and "equality" clauses of the Fourteenth Amendment to the Constitution of the United States; and, in addition, imposes a direct charge upon an interstate common carrier by railroad for the primary, if not sole, benefit of competitive commercial transportation by motor vehicle, the beneficiaries of the entire project, so as to be a direct, undue and illegal burden on interstate commerce by railroad in violation of paragraph 3, Section 8 of Article I of the Constitution of the United States, generally called the "commerce" clause, all of which is fully apparent in the record and proceedings in said cause and specifically set forth in the assignment of errors filed herein.

Wherefore, The Nashville, Chattanooga & St. Louis Railway, appellant, prays that upon the execution by it of a proper bond, duly approved, appeal may be granted in its behalf in the said cause to the Supreme Court of the United States for the correction of the errors so complained of and that a transcript of the record, proceedings and papers in this cause, duly authenticated, may be sent to the said Supreme Court of the United States at Washington.

[fol. 836] The Nashville, Chattanooga & St. Louis Railway, appellant, desiring to supersede execution on the judgment rendered against it in this cause, here tenders bond in such sum as the Court may require for such purposes and prays that with the allowance of an appeal a supersedeas or stay may also issue.

This June 28th, 1934.

The Nashville, Chattanooga & St. Louis Railway, by
Fitzgerald Hall, Counsel.

Appeal and supersedeas is hereby allowed, as prayed, upon The Nashville, Chattanooga & St. Louis Railway making bond as required by law in the sum of $1,000.00.

This June 28th, 1934.

Grafton Green, Chief Justice of the Supreme Court of the State of Tennessee.

[fol. 837] [File endorsement omitted]

IN SUPREME COURT OF TENNESSEE

[Title omitted]

ORDER ALLOWING APPEAL AND GRANTING SUPERSEDEAS—Filed June 28, 1934

This cause came on to be heard upon the petition of The Nashville, Chattanooga & St. Louis Railway, appellant in this cause, for an appeal and supersedeas or stay to the end that said cause may be transferred, as provided by law, to the Supreme Court of the United States for final determination and that the final judgment entered in this cause on May 19, 1934, may be superseded and stayed, pending such final determination.

And it appearing to the Court that The Nashville, Chattanooga & St. Louis Railway has in proper manner challenged the constitutional validity of certain statutes of the State of Tennessee on the ground that they are repugnant to the Constitution of the United States, and this Court having held by opinion and order duly filed in this cause that said statutes are valid and enforc-ible and applicable to said appellant in this cause, and The Nashville, Chattanooga & St. Louis Railway having filed an appeal and supersedeas bond in the sum of One Thousand Dollars ($1,000.00) satisfactory to the Chief Justice of this Court.

It is, therefore, ordered, adjudged and decreed that an appeal as prayed be, and the same hereby is, allowed to the Supreme Court of the United States, the same to [fol. 838] operate as a supersedeas or stay of the final judgment in this cause.

It is further ordered that a transcript of the record, proceedings, papers, opinion and judgment of this Court shall

be prepared and transmitted by the Clerk of the Supreme Court of Tennessee to the Supreme Court of the United States at Washington, in the manner and form provided by law, so that he shall have the same in said Court within 40 days of this date, to the end that said Court may inspect the same and do what according to law should be done.

And it is further ordered that so many of the exhibits as may be called for, either by stipulation of counsel or by præcipe, shall be transmitted by the Clerk of the Supreme Court of Tennessee to the Supreme Court of the United States at Washington in their original form.

This the 28th day of June, 1934.

Grafton Green, Chief Justice of the Supreme Court of the State of Tennessee.

[fols. 839 & 840] Bond on Appeal for $1,000.00, approved and filed June 28, 1934, omitted in printing.

[fol. 841] [File endorsement omitted]

IN SUPREME COURT OF TENNESSEE

[Title omitted]

ASSIGNMENT OF ERRORS ACCOMPANYING PETITION FOR APPEAL TO THE SUPREME COURT OF THE UNITED STATES—Filed June 28, 1934

The Nashville, Chattanooga & St. Louis Railway, appellant in this cause, in connection with its petition for appeal and supersedeas this day filed, to wit: June 28, 1934, shows the following errors which it avers occurred in the proceedings in this cause and on the trial thereof, and in the opinion and judgment of the Supreme Court of the State of Tennessee, upon which it relies to reverse the final judgment entered herein as appears of record.

I

The Supreme Court of the State of Tennessee, in its opinion and final order of May 19, 1934, erred in sustain-

ing appellees', Webster, et al. (appellants in the Supreme Court of Tennessee) two assignments of error filed in that Court and in reversing the judgment of the trial court, said assignments of error being in words and figures as follows:

"1. The Court erred in holding that under the facts proven in this case the statute which requires a railroad to contribute one-half of the cost of a grade crossing elimination (Chapter 132, Acts of 1921) is in violation of the Constitutions of the State of Tennessee and of the United States.

"2. The Court erred in not holding the statute (Chapter 132, Acts of 1921) and the order promulgated pursuant [fol. 842] thereto valid and constitutional and in not holding the complainant Railway liable for one-half of the cost of the grade crossing elimination."

for the following reasons:

(a) The power exercised was that of laying out and constructing highways and not the police power—the grade separation project was based on the same engineering and motor traffic considerations which control alignment, grade, width of pavement and other construction details.

(b) Even if the grade separation project, under the facts and conditions in the case at bar, could be considered an exercise of the police power, the state statutes imposing on appellant Railway alone part of the direct cost is invalid because:

(1) There has been a revolution in transportation and grade crossing problems. To apply the principles of an obsolete era to wholly new conditions is both arbitrary action and unreasonable discrimination under the Fourteenth Amendment.

(2) Some highways are no longer built for local travel. The particular highway in question constituted a part of a nation-wide system of federal and state aid roads, deliberately planned, designed and constructed to foster commercial interstate transportation by motor vehicle in competition with railroads. Under those conditions, to require only railroads to help finance a public improve-

ment for the benefit of their competitors by motor vehicle —which are required to pay nothing—is not only arbitrary [fol. 843] action but unreasonable discrimination under the the Fourteenth Amendment.

(3) Certain state and federal through highways, such as the one here involved, now stand in the same category as railroad rights of way—both are built for commercial transportation and are highly competitive—trains operate on both. Where a new right of way for commercial motor transportation crosses an old, existing right of way for railroad transportation, the new right of way must pay the cost—the state statutes requiring otherwise constitute arbitrary action and unreasonable discrimination; and also impose a direct and illegal burden on interstate commerce by railroad.

(c) Under modern transportation conditions, in such an instance as in the case at bar, to require no citizen to participate directly in the cost of the grade separation except appellant Railway is not only arbitrary action and unreasonable discrimination, but a direct burden on interstate commerce by railroad.

(d) The Tennessee statutes under attack are a part of a system whereby Tennessee and the federal government deliberately discriminate against railroad transportation in favor of commercial motor transportation and directly burden interstate commerce by railroad in the matter of both regulation and taxation.

[fol. 844] II

The Supreme Court of the State of Tennessee, in its opinion and final order of May 19, 1934, erred in reversing the judgment of the trial court and in failing to sustain appellant Railway's challenge to the constitutional validity of Chapter 132 of the 1921 Public Acts of Tennessee, as amended, (being brought forward subsequent to the commencement of this suit into the 1932 Code of Tennessee as Sections 2638 et seq.) the applicable portion of which is Section 2 (Section 2640 of the 1932 Code of Tennessee) and is in words and figures as follows:

"When any such grade crossing shall be ordered to be eliminated as provided, it shall be the duty of the railroad

company owning or operating the track at such crossing to comply with the order of the commissioner of said department within the time specified in such order by preparing and submitting to the commissioner for approval detailed plans and specifications and estimates of cost for the construction of such underpass or overpass and by the construction of said overpass or underpass in accordance with the plans and specifications so approved, including the necessary approaches thereto; provided (a) that any such railroad company shall have the right to appeal to the railroad and public utilities commission for an extension of time within which to begin and complete the actual construction of the underpass or overpass required by such order of the commissioner, and said railroad and public utilities commission is empowered to stay the order of the said commissioner for such actual construction for any length of time not exceeding two years, whenever it shall find from evidence submitted to it that said stay or extension of time is necessary on account of the financial condition of the railroad company affected, or that such company is entitled to said stay or extension of time in order to equitably protect the financial interests of such company; (b) that the detailed plans and specifications and estimates of costs for any such overpass or underpass ordered by the commissioner may be prepared in the discretion of the commissioner by the department's own engineers, or by engineers employed for the purpose, in which event said plans and specifications and estimates of cost shall be subject to the approval of the railroad company affected; (c) that if any such railroad company shall, in obedience to the direction of said commissioner make surveys and prepare estimates and plans, then said commissioner shall within a reasonable time, not exceeding six months, reimburse such railroad or railway for one-half of the expense and cost of such work; and if, after the making and preparation of any such surveys, plans, and estimates of cost by any railroad company under the orders of the commissioner, or any part thereof, the order for the elimination of the grade crossing be revoked by the commissioner, and the elimination of such crossing abandoned, the [fol. 845] commissioner shall, within a reasonable time, not exceeding six months from the date of said revocation reimburse the railroad or railway company for all the actual expense and cost of such work incurred by said company,

upon a presentation of an itemized and sworn statement of said expense and cost, the amount thereof to be included as a part of the cost of the highway of which such crossing is a part; (d) before any railroad company shall be obligated or required to commence and prosecute the actual and physical work of separating any such grade crossing, the said commissioner shall have available sufficient funds with which to reimburse said railroad company for that part of the expenses of said separation which is to be paid out of the public funds under the provisions of this statute; and the commissioner shall make the railroad company, prosecuting said work, monthly payments in an amount which shall equal the proportion of the cost and expense which the public is required to pay under the provisions of this statute of all that part of the work, including both labor and materials, completed at the date of any said monthly payment; (e) that when any grade crossing covered by sections 2638 and 2639 shall have been ordered to be eliminated, as provided, it shall be the duty of the railroad company upon which such order of the state highway department may have been served, in accordance with the provisions of this statute, at once to comply with such order, or avail itself of the right of an appeal, as set forth in subsection (a) of this section, within sixty days from the date of the service of said order, and in the event any such railroad company should fail to comply with such order directing the elimination of such grade crossing, or to appeal within sixty days, the state highway commissioner shall have the authority to proceed immediately with the construction of such grade crossing separation, *and upon the completion of same to assess one-half of the cost of preparation of plans and estimates and one-half of the cost of the work of construction against the railroad company affected thereby*, and all such costs as are assessed in this manner against such railroad company shall be a lien upon the physical properties of such railroad company, which lien shall be prior to any lien then existing against such physical properties, and the amount of such cost may be recovered against such railroad company by a suit brought on behalf of the state by its attorney-general, and the enforcement, in the name of the state, of the lien." (Italics ours.)

because the interpretation and application of the Federal Constitution by the Supreme Court of the State of Tennes-

see, in the case at bar, was based exclusively upon principles having their inception under facts and conditions which have long since ceased to exist. The Tennessee Supreme Court gave no weight or consideration to the revolution in transportation generally and the wholly new conditions now prevailing at grade crossings, or to the fact that these mod- [fol. 846] ern nation-wide federal and state highways, such as involved in the case at bar, constitute in law and in fact a right of way for commercial transportation by motor vehicle in the same category as railroad rights of way. The application and interpretation of the Federal Constitution must vary with the times in order to meet new and changed conditions, yet the Supreme Court of the State of Tennessee applied to this "motor age" principles which originated and became crystallized in the obsolete "horse and buggy" days.

III

The Tennessee statutes here under attack, and particularly section 2 of Chapter 132 of the 1921 Public Acts of Tennessee as amended by Chapter 35, of the 1923 Public Acts (being Section 2640 of the 1932 Code of Tennessee, found on pages 622 and 623 of said Code), under the pleadings, testimony, construction and application by the Tennessee Supreme Court in the case at bar, violate the due process and equality clause of the Fourteenth Amendment and the commerce clause of the federal constitution on the following grounds, to-wit:

(a) The volume and character of traffic on the public highways and at grade crossings is entirely different from what it was before the advent of the internal combustion engine and the new nation-wide system of correlated commercial highways so that today it is railroad traffic that needs protection from motorists rather than horses and buggies needing protection from railroads.

(b) Such state and federal through highways as involved in the case at bar are designed, constructed and used for public commercial transportation exactly as are railroad rights of way. To require such a railroad as appellant alone of all citizens of the nation to directly defray a part of the cost of this grade separation project, from which it [fol. 847] will receive no benefit, for the deliberate purpose

of making more rapid and convenient competitive motor transportation, violates the constitutional guaranties before mentioned.

(c) When a new railroad crosses an old one, the new or junior road under general law will pay the cost of the crossing. Under modern conditions, state and federal highways primarily designed to foster interstate commerce by motor vehicle in competition with railroads stand before the law in the same category as if they were railroad rights of way instead of motor vehicle rights of way—the only difference being that railroad trains operate on rails while motor vehicle trains operate on the public highways.

(d) Discrimination against railroads in the entire system of taxation and regulation of two highly competitive forms of commerce, namely motor and railroad, is merely accentuated by the Tennessee statutes here under attack. The use of the proposed grade separation project will not benefit appellant Railway and it was not designed so to do. The volume of use will be predominantly motor vehicular, due to the few trains which operate and the time at which they run. Such danger as would exist, if there were a grade crossing, would be produced almost exclusively by motor vehicles which are a greater menace to safe train operation than trains are to safe motor operation. Physical, operating, and economic conditions at some grade crossings (such as the one here involved) have completely changed since the rule that a railroad could be legally made to finance a grade separation project came into existence.

For which errors the appellant, The Nashville, Chattanooga & St. Louis Railway, prays that said final judgment in the Supreme Court of the State of Tennessee dated May 19, 1934, in the above cause be reversed and that appellees, [fol. 848] Frank W. Webster et al., be taxed with the costs.

This June 28th, 1934.

The Nashville, Chattanooga & St. Louis Railway, by Fitzgerald Hall, Counsel.

[fol. 849] Citation, in usual form, showing service on Edwin F. Hunt, filed June 28, 1934, omitted in printing.

[fol. 850] [File endorsement omitted]

IN SUPREME COURT OF TENNESSEE

[Title omitted]

PRÆCIPE FOR TRANSCRIPT OF RECORD—Filed June 28, 1934

To the Clerk of the Supreme Court of Tennessee:

You are requested by appellant, The Nashville, Chattanooga & St. Louis Railway, to incorporate in the transcript of the record in the above styled cause to be filed in the Supreme Court of the United States pursuant to an appeal allowed in the above entitled cause upon petition of The Nashville, Chattanooga & St. Louis Railway the following:

1. Stipulation as to record signed by both parties, dated June 15th, 1934, and in the order there named the records and proceedings there called for.
2. The assignment of errors filed by appellees Frank W. Webster, et al. in the Supreme Court of Tennessee.
3. The opinion of the Supreme Court of Tennessee rendered May 19, 1934.
4. The final decree of the Supreme Court of Tennessee dated May 19, 1934, and all subsequent orders, giving their dates, relating to this case.
5. Petition for appeal to the Supreme Court of the United States and supersedeas with endorsement thereon.
6. Assignment of errors accompanying said petition for appeal.

[fol. 851] 7. Statement of appellant Railway as to jurisdiction of the Court provided by Rule 12 of the Supreme Court of the United States.

8. Order allowing appeal and supersedeas.

9. Appeal and supersedeas bond with endorsement thereon.

10. Notice to counsel for appellees of the filing of appeal papers, required by Rule 12, paragraph 2, Rules of the Supreme Court of the United States, including service.

11. Citation with acknowledgement of service thereon.

12. This præcipe.

13. Clerk's certificate.

The Nashville, Chattanooga & St. Louis Railway, by Fitzgerald Hall, Counsel.

Filed with the Clerk of the Supreme Court of Tennessee June 28th, 1934.

I, Edwin F. Hunt, Assistant Attorney General of the State of Tennessee and counsel for Frank W. Webster and Roy H. Beeler, appellees, acknowledge service of this præcipe on this June 28th, 1934. I agree that it embraces everything that need be transmitted from the Supreme Court of the State of Tennessee to the Supreme Court of the United States in this cause and I agree with counsel for appellant Railway that all the record so transmitted should be printed.

Edwin F. Hunt, Counsel for Appellees.

[fol. 852] Clerk's certificate to foregoing transcript omitted in printing.

[fol. 853] Judge's Certificate to clerk omitted in printing.

[fol. 854] Clerk's Certificate to judge omitted in printing.

[fol. 855] SUPREME COURT OF THE UNITED STATES

STATEMENT OF POINTS TO BE RELIED UPON AND DESIGNATION OF THE PARTS OF THE RECORD TO BE PRINTED—Filed July 16, 1934

Comes now The Nashville, Chattanooga & St. Louis Railway, appellant in the above styled cause, conformably to the Rules of the Supreme Court of the United States, and particularly Rule 13 thereof, and adopts its assignment of errors as the statement of the points to be relied upon.

And The Nashville, Chattanooga & St. Louis Railway, appellant, further states that all the record as filed in this cause in the Supreme Court of the United States should be printed, including this statement.

This June 28th, 1934.

Fitzgerald Hall, Counsel for Appellant.

I, Edwin F. Hunt, Assistant Attorney General of the State of Tennessee and counsel for Frank W. Webster and Roy H. Beeler, appellees in this cause, acknowledge service of the above on this the 28th day of June, 1934, and I concur in the suggestion that the entire record as filed in the Supreme Court of the United States should be printed for the consideration of that Court.

Edwin F. Hunt, Counsel for Appellees.

[fol. 855a] [File endorsement omitted.]

[fol. 856] SUPREME COURT OF THE UNITED STATES

STIPULATION AS TO REPRODUCTION OF CERTAIN EXHIBITS —Filed Oct. 20, 1934

In this cause many of the exhibits were prepared by the regular staff of appellant, The Nashville, Chattanooga & St. Louis Railway, particularly maps, drawings and photographs. These can be reproduced by appellant's regularly employed experts at a large saving, as compared with the cost of reproduction in the usual manner through the Clerk's office at Washington. Therefore, to save this large cost and to avoid enlarging the record proper in the Supreme Court of the United States, it is agreed by the parties hereto as follows:

1. That appellant Railway will, at its expense, make up twelve complete copies of certain exhibits, principally maps, drawings and pictures. Ten of these will be lodged with the Clerk of the Supreme Court of the United States and one delivered to adversary counsel. So many of the exhibits in this cause as are so reproduced will be omitted from the record as reproduced under the direction of the Clerk of the Supreme Court.

[fol. 857] 2. The selection of these exhibits to be made by appellant and the work of reproduction shall be subject to the Rules of the Supreme Court of the United States, and under the general direction of the Clerk of that Court.

3. Counsel for respondents will check this work before it is filed with the Clerk of the Supreme Court at Washington.

4. This original stipulation will be filed with the Clerk of the Supreme Court at Washington to be printed into and become a part of the record in the cause.

This October 18th, 1934.

Fitzgerald Hall, Counsel for Appellant. Edwin F. Hunt, Counsel for Respondents.

[fol. 858] [File endorsement omitted.]

Endorsed on cover: File No. 38,811. Tennessee Supreme Court. Term No. 183. The Nashville, Chattanooga & St. Louis Railway, Appellant, vs. Frank W. Webster, Commissioner of Highways, et al. Filed July 16, 1934. File No. 183, O. T., 1934.